ENGINEERING NEWS-RECORD

GINEERI
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eted section of the Memorial Highway ding South from ngton past the Penta- uilding — a distance miles. Work on a mile extension by- ng Alexandria is now built by the Virginia way Department.

UNIV OF MICHIGAN
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ANN ARBOR MICH

3000-TONNERS
ride this shipyard shuttle

Hauling ships out of the river and transferring them to a repair area is the job of this G-E engineered system at Commercial Iron Works

The conductor of this unusual "trolley line"—a West Coast installation—handles ships in and out of water with the greatest of ease, thanks to the unique control system engineered by General Electric.

Three 200-horsepower G-E motors do all the hauling. The conductor simply remains in the control house, turns certain handles, and the cradles that hold the transfer carriage are moved into position, all slack is taken up, and the job of moving a ship is under way.

In co-operation with the builders, G-E engineers, experienced in many kinds of construction problems, designed a system that stands up under tough operating conditions. Affording the complete flexibility desired by the shipyard, the equipment is easy to control, easy to maintain, and has built-in safety features that reduce the hazards of moving ships rapidly.

At General Electric you will find an answer to the electrical engineering problems involved in construction projects. A call to our nearest office will put you in touch with G-E men who are familiar with your type of work. *Apparatus Department, General Electric Co., Schenectady 5, N. Y.*

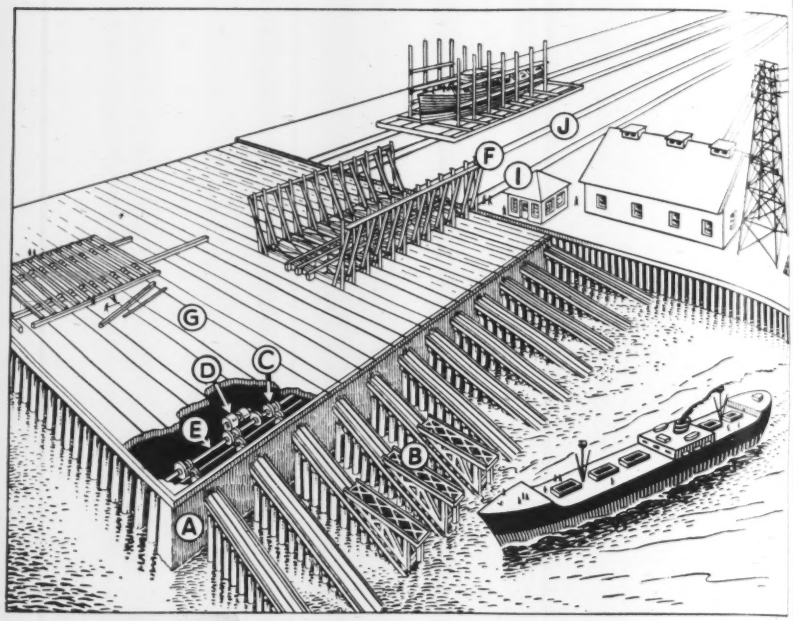
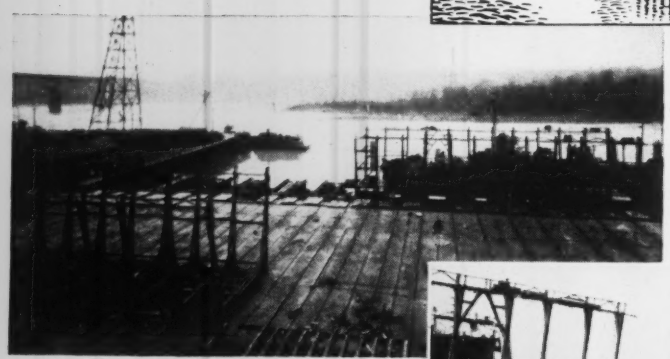
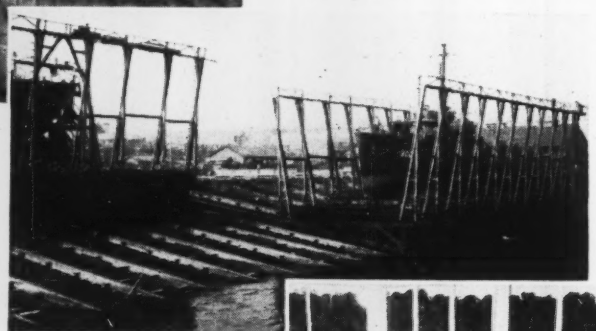


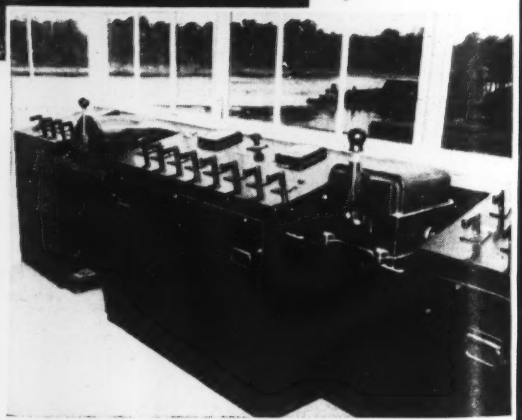
Diagram of shipyard: **(A)** is the headwall behind which is the main haulage shaft **(E)**, powered by 200-hp G-E motors **(D)**. **(C)** is one of the winches used to take up slack on the cradles **(B)**. The shunt area **(G)** has rails for moving the transfer carriages **(F)** in line with rails in the repair section **(J)**. Operator in the control house (I) handles entire job through directions received by telephone.



View of shipyard looking across shunt area. Ship is in transfer carriage on cradles raised to shunt level.



Here, two carriages are in use. Piling reaches 330 feet into the river on a 17 per-cent grade.



Control bench with winch control handles, and master switch for haulage shaft at left. Control for shunt area hauling is at right.

ELECTRIC EQUIPMENT FOR THE CONSTRUCTION INDUSTRY

GENERAL ELECTRIC

655-50-162

The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • DECEMBER 6, 1945 • VOLUME 135 • NUMBER 23

House passes $434 million first deficiency measure

Adds $122,275,000 for Corps of Engineers, $158,320,000 for veterans' hospitals, $24,500,000 for veterans' housing to bill as reported out by committee

A deficiency bill (H. R. 4805) containing over $434,000,000 for construction and planning was passed by the House Nov. 30. Although the measure contains large amounts which the House Appropriations Committee had recommended for later consideration in future bills (*ENR* Nov. 29, vol. p. 703), early approval of the bill by the Senate is expected.

Passage of the measure, which is designated as the first deficiency bill for 1946, is the outcome of the President's request late in October (*ENR* Oct. 25, vol. p. 545) for large sums for construction. He asked funds for rivers and harbors and flood control construction, for a large hospital program, and that an appropriation be provided for housing for veterans. Funds were also requested for the Bureau of Reclamation, the International Boundary Commission and the Federal Works Agency.

In reporting out the bill which was passed, the appropriations committee had included no construction funds for the Army Engineers; no money for housing and hospitals for veterans, and none for the International Boundary Commission. However, the House as a whole saw fit to include most of the money requested by the President.

Agencies provided with construction and planning money in the bill, as finally passed, are as follows:

Veterans Administration, $158,320,000; Corps of Engineers, $122,275,000; Bureau of Reclamation, $77,205,000; Public Roads Administration, $25,000,000; National Housing Agency (for housing for veterans), $24,500,000; Bureau of Community Facilities of the FWA, $12,500,000; District of Columbia, $6,400,000; Forest Roads and Trails, Department of Agriculture, $4,000,000; and construction at the National Airport, $3,998,000.

All of the $158,320,000 appropriation for the Veterans Administration is to be spent for hospital construction. A total of $23,460,674 will be used to continue projects already authorized. The remaining money will be employed to construct 19 new hospitals and to enlarge 20 existing hospitals.

The largest of the entirely new hospitals to be built are as follows: Albany, N. Y., $10,423,706; Newark, N. J., $10,423,706; Buffalo, N. Y., $10,388,664; Oklahoma City, Okla., $8,369,440; Gainesville, Fla., $6,696,845; Washington, D. C., $6,151,799; El Paso, Tex., $5,047,000; Louisville, Ky., $4,577,129; New Orleans, La., $4,061,005; and New Haven, Conn., $4,060,536. The largest of the additions will be a $9,147,199 project at Lebanon, Pa.

Big flood control fund

The fund for the Army Engineers is made up as follows: Flood control, general, $78,956,000; rivers and harbors construction, $24,316,000; flood control on the lower Mississippi, $15,000,000; planning, $2,800,000; and maintenance on the Chesapeake and Delaware canal, $1,200,000.

The largest general flood control appropriation is $4,000,000 for Wolf Creek Dam reservoir in Kentucky. A number of projects are each provided with $3,000,000, including Allatoona

(*Continued on p.* 11)

Entire length of Rhine open to barges

The International Committee for the Control of Rhine Navigation said at Strasbourg last week that the first barge of coal from the Ruhr reached that city on Nov. 21, and that a channel is now open in the Rhine from its mouth in Holland to Basle, Switzerland.

Openings have been blasted in the wrecked bridges, sunken barges have been raised, and some of the military bridges have been removed or altered as a part of this work.

Shortly after the first of October, British Engineers reported that only two bridges out of the nineteen that had been wrecked in their zone remained to be worked on, one at Duisburg and one at Cologne, before a 240-ft. opening would be available in all bridge wreckage in the 130 miles of river between the sea and Bonn. The half-dozen semi-permanent railway bridges built by American Engineers in this lower reach of the river had been provided with about 90 ft wide navigation spans, giving 32-ft. shipping clearance, proved adequate.

Farther upstream in the present American occupation zone a 150-ft. wide channel had also been cleared by that time, extending from Karlsruhe to Bacharach, except at Mainz and Oppenheim, where barges must pass through 75-ft. openings in some of the demolished bridges. The work incident to this channel opening has required the removal of ten of the wrecked permanent bridges and of five pontoon and four pile bridges built by U. S. Engineers. This work also involved the rebuilding, lengthening of the channel span and raising of the roadway on four U. S. pile bridges of the Seventh Army, which had failed to receive in time the SHAEF specifications providing for adequate navigation clearance, which had governed the bridges built farther downstream by the First, Third and Ninth Armies.

In all of this work German civilian organizations and contractors, employing some 2,000 Germans, were used under U. S. direction. U. S. Engineer units participating in the clearance of the Rhine have been the 1057th PC&R Group, the 5th, 278th and 371st Engineer Combat Battalions, and the 343rd Engineer General Service Regiment. In addition, the 282nd Engineer Combat Battalion cleared the channel in the Main river from its junction with the Rhine up to Wurzburg. All of these units have now been deployed and present work directed is being done entirely by Germans, under U. S. direction.

NEWS IN BRIEF

In telegraphic form, here are further news developments on the engineering and construction front during the week.

Highways—*Georgia's* highway board approved a $32,000,000 roadbuilding program for 1946, largest in state history. . . . *Connecticut* started traffic surveys to determine need for a $6,000,000 toll bridge over the Connecticut River at Old Lyme. . . . *California* will ask immediate bids on $1,500,000 worth of underpasses and bridges on San Diego's Cabrillo Freeway. . . . St. Petersburg, Fla., Port Authority considered plans for a $10,000,000 bridge across Tampa Bay that would open a west-coast highway into south *Florida*. . . . *Louisiana* will improve sections of highways 16 and 47 in the northeast part of the state. . . . *Wisconsin* plans to spend $8,000,000 on its east-west roads. . . . Cooperation of all communities in working out a unified highway program for *Arizona* was urged by the Phoenix chamber of commerce. . . . *Kansas* is building six additional magnetic road-sweepers to clear metal from its highways.

Sewerage—*Cleveland, Ohio,* expects to get a part of its $3,000,000 sewer improvement program into construction by March. . . . Plans for the first section of a $12,000,000 disposal system at *Portland, Ore.,* may be completed by Jan. 1. . . . The *Milwaukee, Wis.,* Metropolitan Sewerage Commission, has approved a contract with the Elm Grove Sanitary District to handle its material at a rate of $74.34 per million gallons. . . . *Mishawaka, Ind.,* purchased 20 acres for sludge beds in its $1,700,000 treatment plant.

Miscellany — To provide planning data for highway development in the area, a photogrametric survey of *Providence, R. I.,* has been completed. . . . Connecticut lumber dealers, meeting at *New Haven,* opposed governmental ceiling prices on individual homes. . . . The State of *Florida* awarded a $393,990 contract for construction of a new wing on the Capitol. . . . *Louisiana State University* said it would start work soon on a new junior college at Thibodaux. . . . Harvard College, *Cambridge, Mass.,* will build a new library at a cost of $1,500,000. . . . *Mississippi* considered a proposal for a new $2,500,000 state office building at Jackson. . . . *Canada's* Department of Transport completed an all-weather landing field at Yellowknife, Northwest Territories, in four months.

Construction — The Cleveland Steel Products Co. said it would build a $1,000,000 plant near its present headquarters in *Cleveland, Ohio.* . . . Hanover College, *Hanover, Ind.,* said its $1,250,000 building program was under way. . . . The Knox Corp. planned a $2,500,000 plant to build highway machinery at *Waynesboro, Ga.*

Admiral Kirby Smith leaves naval service

Rear Admiral Kirby Smith, Director of Construction, Bureau of Yards and Docks, Navy Department, returned to the Navy's inactive list Dec. 1, after three years of active service.

Admiral Smith

Formerly district manager at Washington, D. C., for the Raymond Concrete Pile Co., he will return to the company's New York office.

A graduate of the U. S. Naval Academy at Annapolis in 1906, Admiral Smith entered the Civil Engineer Corps in 1908. He served successively as Public Works officer, Pearl Harbor, the U. S. Naval Training Station at Newport, R. I., and the Bureau of Yards and Docks at Washington until 1920, when he resigned from the naval service. As a civilian, he served from 1920 to 1923 as general manager of the Newport Shipbuilding Co., Wilmington, N. C., during which time ten concrete ships were built under his supervision.

Admiral Smith joined the Raymond company in 1925, serving as manager in Venezuela until 1928, and as manager in Washington from 1928 until 1942.

Rejoining the naval service in 1942 with the rank of commander, he was promoted to captain in June, 1943 and appointed director of construction at the same time. He became a rear-admiral in November, 1945.

Maj. Gen. Leavey to head Transportation Corps

Maj. Gen. Edmond H. Leavey has been appointed to head the Transportation Corps of the U. S. Army, succeeding Maj. Gen. Charles P. Gross, who this week became chairman of the New York City Board of Transportation (*ENR* Oct. 25, vol. p. 556).

Maj. Gen. Leavey

The Transportation Corps was created in 1942 out of what was formerly the Military Railway Division, which prior to 1942 was a part of the Corps of Engineers. In the Transportation Corps are now collected the Military Railway Service, Army Transport Service, and a large variety of troop organizations dealing with transportation.

General Leavey was born in Longview, Tex., on July 21, 1894, and following graduation from the United States Military Academy, West Point, was commissioned a second lieutenant, Corps of Engineers, on Aug. 30, 1917, and was promoted to first lieutenant and captain (temporary) on the same date. He first served with the 8th Engineers at Fort Bliss, Tex. After service in the U. S. and Hawaii, he entered Rensselaer Polytechnic Institute, Troy, N. Y., and was graduated in civil engineering in June, 1922.

After further training and experience he served in the Office of the Chief of Engineers, Washington, D. C., until September, 1940, when he was assigned as Chief of the Engineering Branch, Construction Division, in the Offices of the Quartermaster General and Chief of Engineers, Washington.

In November, 1942, he was designated Chief of Staff, Mediterranean Base Section. In 1943 he became a brigadier general (temporary) and a major general (temporary) on Feb. 29, 1944.

General Leavey has had several important assignments overseas and until the first of this month was assigned as J-4 Staff Commander-in-chief, Pacific Ocean Area,

In 1943 General Leavey was awarded the Legion of Merit "for exceptionally meritorious conduct."

ENGINEERING NEWS-RECORD. Published every Thursday. **Return postage guaranteed.** Vol. 135, No. 23. Price 25c per copy. Allow at least ten days for change of address. All communications about subscriptions should be addressed to the Director of Circulation, 99-129 N. Broadway, Albany 1, N. Y., or 330 W. 42nd Street, New York 18, N. Y. Subscriptions, United States, U. S. Possessions and Latin American Republics, $5.00 for one year, $8.00 for two years, $10.00 for three years. Canada $6.00 for one year, $10.00 for two years, $12.00 for three years. Great Britain and British Possessions 60 shillings for one year, 120 shillings for three years. All other countries, $10.00 for one year, $20.00 for three years. Please indicate position and company connection on all subscription orders. Entered as second-class matter October 29, 1936, at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Printed in the U.S.A. Cable Address: "McGrawhill New York." Member A.B.P. Member A.B.C. Copyright 1945 by McGraw-Hill Publishing Company, Inc. All rights reserved. James H. McGraw, Founder and Honorary Chairman; JAMES H. McGRAW, JR., President; CURTIS W. McGRAW, Senior Vice-President and Treasurer; HOWARD EHRLICH, Vice-President (for business operations); WILLARD CHEVALIER, Vice-President (for editorial operations); JOSEPH A. GERARDI, Secretary, and J. E. BLACKBURN, JR., Director of Circulation. **Publication office: 99-129 North Broadway, Albany 1, N. Y. Editorial and Executive Office: 330 West 42nd St., New York 18.** District Managers and Branch Offices: Fred G. Hudson, 520 N. Michigan Ave., Chicago 11; 738-9 Oliver Building, Pittsburgh; J. W. Otterson, 68 Post St., San Francisco, 4; Aldwych House, Aldwych, London, W. C. 2, England; Washington; J. M. Spackman, New York; A. B. Cozzens, Philadelphia; E. E. Duff, Jr., Cleveland; B. F. Horn, Detroit and Chicago; W. G. Payne, St. Louis; R. N. Phelan, Los Angeles; J. I. Ballard, Boston; Ralph Maultsby, Atlanta, Ga.

Start action on cities' improvement, construction planning and programs

Handling of increasing downtown traffic congestion concerns many—Civic centers, other construction planned

While states and the federal government pushed ahead with plans and financing to implement major construction plans, many U. S. cities last week also were going ahead on much-needed civic improvement programs.

Many of the plans—like those in New York City and Pittsburgh, Pa., (*ENR* Nov. 29, vol. p. 705 and 706)—are aimed at clearing up increasingly complicated traffic problems; while others have to do with civic centers, new city buildings, waterworks and sewage projects.

City traffic improvement

Portland, Ore., Seattle, Wash., Indianapolis, Ind., San Francisco and Los Angeles, Calif., and Milwaukee, Wis., were increasingly concerned with city traffic, and considered a variety of solutions ranging from an underground parking area to construction of freeways and express highways that would separate through and local traffic.

Seattle, where much of the business district is squeezed between Puget Sound and a steep hill, considered a $16,418,000 five-year street improvement program that calls for construction of both a depressed speedway and a viaduct leading into the main artery of the city.

Portland's Junior Chamber of Commerce urged construction of an underground parking garage with a 1,500-car capacity, after the plan of San Francisco's Union Square garage. The facility would be city-built but privately operated.

At San Francisco, the City Planning commission considered a multi-million dollar plan to construct a Market St. subway and six "freeways" through the downtown area, plus further provisions for parking in the business district. Los Angeles considered a somewhat similar plan—the $22,000,000 Hollywood Freeway, which would extend 45 miles through metropolitan Los Angeles from Universal City to near Santa Ana. The six-lane road would by-pass heavy downtown traffic by creating a depressed thoroughfare under Los Angeles, Main, Spring Broadway and Hill Streets.

Indianapolis, completing a traffic survey that showed city traffic had increased 40 percent in the past two years despite gasoline rationing, considered a variety of plans that included widening streets, installation of parking meters, construction of off-street parking facilities, regulation of traffic lights.

The Greater Milwaukee Committee outlined its plans to the city's aldermen. Included was the proposal that a major north-south highway be constructed to connect Billy Mitchell field with the downtown area, and another calling for the rebuilding of the Sixth Street Bridge.

New civic facilities

Other civic improvements, some almost ready for construction and others still in the discussion stage, include:

Duluth, Minn., named seven architects to begin drafting preliminary plans for a $5,000,000 building program that includes a civic auditorium, a terminal airport building, a library, city jail, and other structures; Santa Ana, Cal., approved a $994,000 bond issue to construct a new junior college; Richmond, Cal., voters approved bonds for a $3,850,000 civic center.

Urbana, Ill., city council delegated power to Mayor George F. Hurd to prepare plans for integrated development of a square-mile section of the city; Tulsa, Okla., planned a swimming pool and play center; Akron, Ohio, considered railroad-submitted plans for a new union station; Kansas City, Mo., debated spending $800,000 on improvements at its municipal airport; Nashville, Tenn., voters approved a $3,000,000 bond issue to finance street improvements.

Phoenix, Ariz., is giving thought to the construction of a $1,250,000 civic center as a "living" war memorial. The center would include an art gallery, library, theater, and other structures.

Connecticut surveys water transport means

Seeking to provide a blueprint for the development of the state's water transportation facilities, the Connecticut Port Survey Commission last week awarded a contract to a New York engineering firm.

The engineers—Parsons, Brickerhoff, Hogan and McDonald—are to make an economic and engineering survey of all the navigable waters within the territorial limits of the state to serve as a basis for recommendations for improvements, new legislation and probable construction to aid water-borne traffic.

Surplus machine sale brings top bids

First sale of government surplus construction equipment in San Francisco, Calif., recently brought bids totaling over $160,000 from 110 registered dealers. Included in the 114 units sold were pavers, cranes, tractors, concrete mixers, bulldozers, piledrivers, compressors and many other pieces once used on projects as far away as the Alcan Highway.

None of the equipment had been overseas and none was from the huge military storage yards of new machinery still waiting to be declared surplus.

Prices paid for the second-hand equipment were at OPA ceilings in most cases. One piledriver, used in the construction of the Mare Island Navy Yard, brought $2,500, while an 11-ton crane truck sold for $6,766. Thirty portable gasoline-driven jackhammers went at an average price of $60.

Inspection sites, where the equipment could be viewed before the submission of bids, were set up at Sacramento, Vallejo, Salinas, Sonora, Richmond, and Oakland. In most cases contractors and construction firm officials accompanied certified dealers to the inspections and indicated those pieces in which they were interested.

The sale was conducted by the Office of Surplus Property and all terms were f.o.b. at inspection sites.

Because of the scramble to buy surplus government equipment, the Seattle, Wash., city council has given the city engineering department broad powers to step into that market to make purchases.

The council approved an ordinance requested by City Engineer C. L. Wartelle setting aside $125,000 from the city's street fund to buy needed equipment. Otherwise, specific council consent would have to be obtained to make each purchase. By the time that formality had been met, the desired equipment might have been sold.

Wartelle's department told the council that much of its equipment was purchased before 1930 and that extensive replacements are necessary, as well as additional equipment to maintain streets not adequately repaired.

Limited-Access Highway Begun by Virginia

Recently the Virginia Department of Highways awarded a $546,000 contract for the grading and construction of the small drainage structures for a 14.6-mi. four-lane limited-access highway extending southwestward from the Washington, D. C., area. The road will be the first controlled-access highway built by the department and the start of the project launches a huge postwar road program planned for Virginia.

The expressway has been named the Shirley Memorial Highway in honor of the late Henry G. Shirley, who died in 1943 after serving 22 years as highway commissioner of Virginia. During the war the Public Roads Administration completed the northern 2.2 mi. of the highway at a cost of $1,660,000. The state highway department has now begun work to extend the road 14.65 additional miles to Occoquan Creek.

Two 24-ft. wide reinforced concrete pavements are planned. Later, if desired, one additional lane each way can be added on the first 5 mi. at the Washington end. The slabs will be made 10 in. thick in anticipation of extensive truck traffic. They will be separated by a grassed median strip varying from 14 to 70 ft. in width, this wide median being possible because the minimum width of the right-of-way is 300 ft.

U. S. Air Forces photo

Fig. 1. Completed 2.2-mi. section of the highway provides an excellent route for traffic between the extensive housing developments in the foreground and the Pentagon Building and the city of Washington in the background. Bridged rotary near bottom of picture is believed to be first of its type in this country.

New road has low grades

Maximum grade on the new road will be 3.5 percent uphill and 4.2 percent downhill in the direction of travel. The maximum curve will be 1 deg. 15 min. Because of this excellent alignment, plus the limited access feature, the new road is expected to provide a much better route for the extensive traffic now using existing routes, where long sustained grades of as much as 7 percent are encountered and traffic is not divided. Moreover, the new road bypasses the city of Alexandria.

From the south end of the project onward to Richmond a four-lane highway is available.

Two types of interchanges

To control access to the expressway, service roads parallel to the highway will be built in areas where considerable development is expected. Where access is required, traffic interchanges of a type to avoid left-hand turns are planned. On the section already completed an unusual bridged rotary interchange was built on the section already completed (Fig. 1), which is believed to be the first of its type in the country. During more than a year of service it has functioned satisfactorily.

The work now underway calls for two types of interchanges. At two points, complete four-quadrant cloverleafs (Fig. 3) will be constructed. For five other locations two-ramp interchanges or partial cloverleafs of the type illustrated by Fig. 4 are planned. Three overpasses, one underpass and five bridges over streams will also be required.

Design speed is 70 mph.

The highway proper is designed for a speed of 70 mph. and the exits and entrances for about 50 mph., long accelerating and decelerating lanes being used. The ramps of the interchanges, which have a minimum radius of 80 ft. measured to the inner edge of the pavement, are designed for a speed of 25 mph.

The layout of the highway is characterized as a "spline-line" design, being made up almost entirely of compound curves with only a few hundred feet

f tangent. By making the greater ength of the highway gradual curves, he location was best fitted to the hilly errain traversed and the desired flat rofile obtained. The curved layout vill also reduce to a minimum glare at ight from the headlights of opposing raffic and will avoid the monotony of ong tangents.

Interchanges placed on curves

Another interesting feature of the ayout is the location of all traffic interchanges on or near curves. This design permitted gradual transition in he median to meet the reduced width lesired at some bridges. As a result, here will not be the "squeezing" effect hat would have occurred if the approaches to the structures had been tangents.

The median strip will be depressed nd grassed. Drainage of the strip will e by drop inlets spaced about 500 ft. apart. The outer shoulders will be loped away from the pavement in cuts s well as in fills, and the gutters in both the median strip and those beyond he outside shoulders will be paved if hey are built to a slope of three percent or greater. The centerline of the outer gutters will be placed 19 ft. beyond the edge of the pavement.

Engineers and contractors

The grading contract was awarded to Nello L. Teer Co., Fayetteville, N. C., and it is to be completed by the fall of 1946. The work is being done as a federal-aid project.

For the highway department C. S. Mullen is chief engineer and A. H. Bell location and design engineer. Gilmore D. Clarke, New York, was consultant on the architectural treatment of the bridges.

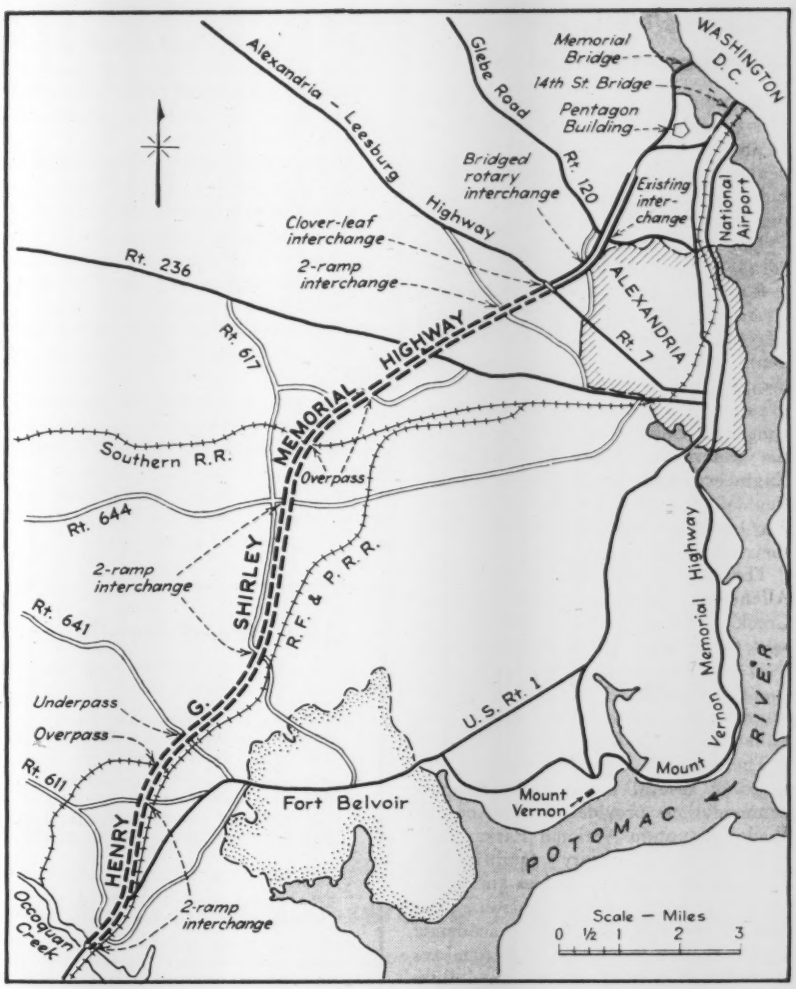


Fig. 2. Nearly 17 mi. long, the limited access highway will provide a much better route for traffic between Washington and Richmond, the city of Alexandria being by-passed. Heavy solid parallel lines show completed section and dotted lines indicate work now underway.

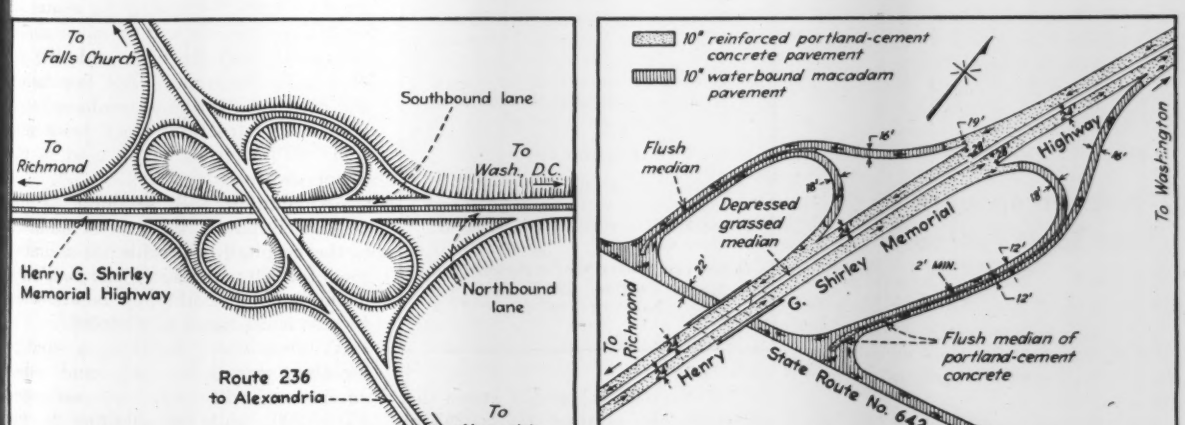


Fig. 3. Where the expressway intersects Route 236 a complete cloverleaf will be constructed to eliminate the need for left-hand turns for traffic traveling from one highway to the other. Right: At five locations, 2-ramp interchanges eliminating the need for left-hand turns on the expressway with only minor traffic interference on the secondary route are planned. Later, if traffic warrants, the interchange can be made a complete cloverleaf.

Hydraulics laboratory to open in Colorado

A summer hydraulic laboratory that will provide facilities for research to engineers, hydraulics teachers and students, has been incorporated in Colorado under the name of Rocky Mountain Hydraulic Laboratory.

The site is controlled by a non-profit corporation of which Gerard H. Matthes—formerly head of the Mississippi River Experiment Station at Vicksburg (*ENR* Sept. 27, vol. p. 406)—is president. Membership is open to "any member in good standing of the hydraulics sections or divisions of the American Society of Civil Engineers, the American Society of Mechanical Engineers or the Society for the Promotion of Engineering Education," who may become members by signifying their intention to do so.

The site of the laboratory is near Allenspark, Colo., on North St. Vrain Creek. The discharge of the creek is said to be many times that ordinarily used in hydraulic experiments, and there is nearly 80 ft. of fall in the quarter-mile length of the stream contained in the 20-acre site.

The location is within walking distance of several hotels and cabin accommodations provided for the nearby Rocky Mountain National Park.

Use of the laboratory's facilities will be open, on payment of fees and registration, to any qualified person. The laboratory will not grant academic credit, though individual staff members may do so on their own responsibility.

Officers of the corporation, in addition to Mr. Matthes, are: Ralph W. Powell, secretary; Chesley J. Posey, associate professor, College of Engineering, Iowa State University, treasurer; and Hardy Cross, Francis M. Dawson, Ivan E. Houk, Adolph F. Meyer, John L. Savage, Edward Soucek, J. C. Stevens, Clifford H. Stone, Royce J. Tipton and Sherman M. Woodward, directors.

To speed up work on East Boston airport

Joseph F. Cairnes, a Cambridge engineer, has been named by Gov. Maurice J. Tobin of Massachusetts as his personal aide to expedite work on development of the Logan International Airport at East Boston.

Mr. Cairnes is employed by the Thompson Lichtner Company, Inc., an engineering firm of Boston which has been working at the airport.

Trucks are now carrying gravel fill for temporary runways, and the glacial deposit on Governor's Island in Boston Harbor is being cut to provide a part of the runway shoulders. Meanwhile dredging operations are producing 2,400,000 cu. yd. of silt a month for other fill.

Governor's Island contains approximately 2,700,000 cu. yd. of earth. It is estimated that it will take a year to cut it down to the planned level. On the island is a granite, fortress-type building, erected during the Civil War for ammunition storage. Its immense granite blocks cover an estimated area of 5,000 sq. ft. and it is about 40 ft. high.

This structure must be also torn down, the granite probably to be used for riprap work on the skyport's water sides.

The Public Works Department expects contracts to be let on these projects after the first of the year.

Calendar of Meetings

NATIONAL

American Standards Association, annual meeting, Hotel Biltmore, New York, N. Y., Dec. 7.

Federation of Architects, Engineers, Chemists and Technicians, CIO., 8th national convention, Hotel Empire, New York, N. Y., Dec. 7-9.

United States Conference of Mayors, annual meeting, Hotel Astor, New York, N. Y., Dec. 10-12.

American Road Builders' Association, 1946 annual meeting and convention, Stevens Hotel, Chicago, Ill., Jan. 14-17.

American Society of Civil Engineers, annual meeting, Commodore Hotel, New York, N. Y., Jan. 16-18.

Highway Research Board, Oklahoma City, Okla., Jan. 25-28.

Associated Equipment Distributors, 27th annual meeting, Edgewater Beach Hotel, Jan. 28-31.

American Association of State Highway Officials, Oklahoma City, Okla., Jan. 29-Feb. 1.

REGIONAL

Carolina Road Builders Association, annual meeting, Pine Needles Hotel, Southern Pines, N. C., Dec. 7-8.

American Water Works Assn., Four States Section, Lord Baltimore Hotel, Baltimore, Md., Dec. 13-15.

ENR Nov. 22, vol. p. 687 stated that a $95,000,000 contract for a 295-mi. highway in Bolivia had been awarded to a combination of Warren Bros., Cambridge, Mass., and F. H. McGraw Co., Hartford, Conn. The amount should have been $9,500,000.

River front improvement planned at Sioux City, Ia.

Plans for a long-range million dollar highway improvement program on the Missouri River front were adopted at a recent meeting of the city council of Sioux City, Iowa.

The project includes the construction of a rerouted river road from Nebraska Street to connect with the river front road under the Combination bridge leading to Riverside; a subway connection of the new road with Pearl Street; a paved system of connecting turns to roads in the area from Nebraska Street to the Combination bridge, and a future truck route which would parallel the river bank and would be separate from the main traffic route.

The project would be tied into construction of the municipal auditorium on the site where footings already have been prepared, and would include walks and areas for the parking of more than 1,200 automobiles.

The plans, drawn by Newell Guernsey, are the result of combined studies by L. A. Winter, city engineer; K. E. Westerlind, auditorium architect; Carl Sernstrom, resident engineer of the state highway commission, and other highway officials.

Big hospital planned for Rochester, N. Y.

Buildings costing $7,515,440 will be erected at the Rochester, N. Y., State Hospital. Bids are expected by April and work will get under way soon thereafter.

Largest of the units will be a medical, surgical and infirmary building costing $3,370,000, located in the center of an 84 acre site. It will be modernistic, hexagonal, 650 ft. long and 400 ft. deep with five wings. The foundation and first floor will be of reinforced concrete, with structural steel, brick and stone the materials to be used in the upper stories.

An addition will be built to the Orleans Building, the newest addition to the hospital, to provide for a dining room for 900 patients, as well as X-Ray, dental and physiotherapy laboratories. Its cost is estimated at $260,000.

A tuberculosis hospital, a storage building, carpenter shop and other equipment will cost an estimated $3,000,000, while an addition to the power plant will cost $200,000 for the building and $226,000 for equipment.

The new buildings will provide quarters for 1,047 additional patients. The institution now has 3,475.

Plan $50 million Ontario hydro plant

Immediate construction of the $50,000,000 Des Joachims water power development on the upper Ottawa River by the Hydro Electric Power Commission of Ontario has been announced by Premier George Drew. The announcement followed a meeting between Mr. Drew and Premier Duplessis of Quebec.

Site of the new development is on the boundary between Ontario and Quebec, about 120 miles northwest of Ottawa.

Work will include a main dam 2,500 ft. long and 135 ft. high and a power plant that will have an installed capacity of 400,000 hp.

In addition to the cost of plant and dam, $20,000,000 will be required for the additional transmission system necessary to tie the plant in with the southern Ontario system of the "Hydro."

Current construction program of the Ontario Hydro now includes three new water power plants, an extension of the De Cew Falls plant (*ENR* Oct. 11, vol. p. 475), the Stewartville development on the Madawaska River, and the Des Joachims plant. These new sources of power have become necessary because of a prospective power shortage in southern Ontario, the power load still increasing despite the end of immediate wartime activity.

The Des Joachims development is one of the major plants in the integrated developments of the entire Ottawa River, planned jointly some years ago by the provincial governments of Ontario and Quebec (*ENR* April 15, 1943, vol. p. 527) under a proposed agreement that never was ratified.

In a letter confirming the approval of Quebec, Premier Duplessis stated that the "development of the Des Joachims site by the Hydro Electric Power Commission of Ontario will in no way be construed as ratification of the 1943 agreement."

Future development of the remaining power sites on the Ottawa, therefore, will be subject to further negotiations between the two provinces.

N. B. Tide-Power Rejected

While the Ontario hydro went ahead with its plans for this major development, an engineers report discouraged development of another large project advocated for Canada.

Tidal power development on New Brunswick's (Canada) Petitcodiac and Memramcook rivers has been found to be less economical than corresponding power generation in a steam plant, according to studies completed by H. G. Acres and Co., Niagara Falls consulting engineers.

This conclusion was the main finding in a long report on the tidal power project—long advocated by local New Brunswick interests—made by the Acres company for the Dominion Government of Canada.

The report, based on a year's study and extensive field surveys, stated that the tidal power site—at the junction of the two rivers, compared favorably with other tidal power sites, but that use of the site for power generation would not prove to be economically desirable.

Three schemes were investigated: Power from tides alone, which would give generating unit cost of about 5.47 cents per kwh.; a combination of tidal power and a steam plant, which would yield power at a unit cost of about 1.75c. per kwh., and a modern steam generating station producing power at a unit cost of .07c. per kwh.

Plans for establishment of an annual award for meritorious achievement among employees of the North Carolina Highway Department have been announced by A. H. Graham, chairman of the State Highway Commission.

Plans being prepared for new span at Quebec

Tentative plans for a new bridge across the St. Lawrence River between Quebec and Levis on the south shore will shortly be submitted for consideration to municipalities and business associations within a radius of 75 miles of the two cities.

The site would be two or three miles downstream from the Quebec Bridge, originally constructed as a railroad bridge but now carrying highway traffic as well.

Banks of the river at the two cities are steep and high, but the requirements of navigation and foundation conditions would result in any new structure being of unusual size. Plans for the proposed bridge, details of which are not yet available, are being prepared by P. L. Pratley, consulting engineer, of Montreal.

Reorganize building department

Canada's Department of Munitions and Supply, and Department of Reconstruction will be merged under the terms of a bill introduced into the House of Commons at Ottawa on Nov. 22 by C. D. Howe, minister of both departments, who would also be in charge of the new combined department.

Urge Terminal Island Bridge building

Representatives of the Long Beach Harbor Commission and Los Angeles County Board of Supervisors will meet this week with Secretary of the Navy James V. Forrestal to ask reinstatement of a $14,000,000 bridge project in Long Beach Harbor, recently cancelled.

Cancellation was announced when the Navy Department refused to approve a contract for construction of the first unit of the $10,000,000 bridge and portions of the $4,000,000 approaches. Low bidder for the initial construction was United Concrete Pipe Co., whose bid of $5,319,000 was approximately $2,000,000 below the estimate.

The Navy Department cancellation was based on its contention the project was a wartime job. Contention of Long Beach Harbor and Los Angeles County officials is that the project, on which rights-of-way and other work has been in progress for the past five years, is not connected with the war-time needs of the Navy in Los Angeles-Long Beach Harbor. Instead, it is an essential to permanent use of the Terminal Island Navy base, and for that reason should be reinstated.

The bridge would replace a temporary wooden swing-span bridge built by the Navy early in the war (*ENR* Sept. 27, vol. p. 406). With its approaches, it would connect the eastern end of Terminal Island with Willow St., Long Beach, on the mainland.

If the project is abandoned by the Navy, rights-of-way valued at $3,000,000, obtained from the Union Pacific Railroad, would revert to the railroad, which would proceed with its plans for development of its properties in the area and thereby prevent later construction of the bridge.

State, city, county and harbor officials, at a meeting called by Commodore S. F. Heim, commandant of the Terminal Island Navy base, to acquaint them with the Navy's position, pointed out that none of them have funds for the project and that Los Angeles and state funds cannot be made available because the project cannot legally be included in their plans.

County Supervisor Ray Darby, and President W. R. Martin of the Long Beach Harbor Commission were authorized to represent interested official groups at the hearing.

Hydrographic survey for Fla. waterway completed

Work of making a hydrographic survey of the Intercoastal Waterway in the Titusville, Fla., area has been completed by a group of 40 men connected with Michael Baker, Jr. These engineers have been in the area for nearly four months and during that time they finished the survey of the canal between Oak Hill and Melbourne, Fla. Henry A. Kajdan was in charge of the engineering party and Cecil Parker represented the Jacksonville U.S.E.D. office.

The work was done with a view to widening and deepening the present channel of the waterway.

Philadelphia plans major building program

The Philadelphia, Pa., City Planning Commission last week reported it had scheduled construction totalling more than $225,000,000 within a few years.

Chairman Edward Hopkinson Jr., said that plans for projects estimated to cost $34,000,000 are from 50 to 74 percent completed. Plans for the remaining major part of the program are under way now, Mr. Hopkinson added.

Listed as "must" projects for immediate action are: Completion of sewage collection and treatment programs; completion of a waterworks rehabilitation program; improvement of city airports, and full development of the Pennsylvania Railroad's 30th St. station.

Contractors to demolish halted F.H.A. housing

Demolition contracts providing for the disposal through contractors of materials contained in 11 federal housing projects in Washington and Oregon have been agreed upon by the Federal Public Housing Authority and the contractors involved. The projects were terminated prior to completion.

Builders who have been engaged in construction of these projects will be given the materials involved to dispose of as they choose as part of the contract settlements. It is stipulated that the units must be demolished to panels or less before being resold or reerected.

Government dwellings that housed workers who turned out parts of the atomic bomb in the Hanford plant at Richland, Wash., are now housing families of veterans attending colleges and universities in Oregon, Washington, Idaho and Montana.

Col. Ralph A. Tudor joins Idaho contracting firm

Col. Ralph A. Tudor, District Army Engineer at Portland, Ore., will join the construction firm of Morrison-Knudsen Co., Inc., Boise, Idaho, following his expected release from the Army.

He will be principal assistant to C. P. Dunn, vice-president in charge of the firm's engineering division. He will act in connection with matters relating to foreign operations of the corporation.

Colonel Tudor, well known in engineering and construction circles of the Northwest, has been district engineer at Portland since May, 1943. Bonneville Power Dam was completed under his supervision. As district engineer he directed huge military and other construction projects in Oregon, Idaho, and part of Washington, and he has supervised much of the groundwork of the Army Engineers $300,000,000 postwar program.

Low-rent houses for Canadian veterans

Wartime Housing Ltd., Toronto, reports that 7,000 houses now being constructed and reserved for veterans will be rented at these monthly rates:

Small 4-room house	$22.00
Large 4-room house	25.00
5-room house	27.50
6-room house	30.00

The above are without basements. Houses with basements are to be rented as follows:

4-room house	$27.00 per mo.
5-room house	33.00 per mo.
6-room house	37.00 per mo.

Arizona denied tax on sale to contractor

Sales to contractors of materials for use in construction for sale to others are not taxable under Arizona law, the state Supreme Court decided recently.

The decision grew out of a series of suits filed against the State Tax Commission by the Frank Harmonson Co., and the Crane Co., both Phoenix contractors.

The court's majority opinion said:

"Where a merchant sells tangible personal property to a contractor for use of and used by the contractor in construction for others, such a sale is a sale for resale and is not taxable."

States report to PRA on interstate network

The Public Roads Administration said in Washington last week that all 48 state highway departments have made recommendations to it as to routes they would like to have included in the national system of state highways, as required by the Federal Aid Highway Act (*ENR*, Dec. 28, 1944, vol. p. 806).

PRA requested such recommendations last February.

The total mileage recommended is considerably in excess of the 40,000 mile legal limitation on the network, PRA said. As a result, discussion must be held with the states to reduce the mileage and insure that routes in neighboring states join at state lines.

Missouri will improve its rural highways

The Missouri state legislature, through a special House of Representatives committee, has approved a bill looking to an improvement of rural highways.

The measure provides that any ten adjoining counties in the state may set up district highway commissions for mutual maintenance of local roads. A majority vote of the electorate in each county is required before a county may enter the district. The commissions would be empowered to spend joint county funds for the purchase of maintenance equipment and the employment of engineers and road crews.

Flood relief law in effect at Dallas

The Dallas County, Tex., flood relief bill became a law recently.

It provides for the remission of state taxes, not to exceed $25,000 a year, for twenty years, to the County Flood Control District, which will be administered by a board of three directors to be named by the Governor. The district controls big levees on the Trinity River which were constructed in 1929-30 to move the river from its crooked channel running through much of the Dallas metropolitan district, and harness it within the new channel created by the earthen levees. The cost of this project was $6,500,000. Storage basins for heavy rainfall were created out of some sections of the old river channel and the rest of the channel was filled. Water was forced into the new channel from the storage basins by four large pumping stations when gravity flows were checked by the river level.

Navy tests proving practicality of de-fogging devices for airfields

Station at Arcata, Cal., set up to determine methods and costs of making bad-weather landings possible

Airplanes can now be landed safely, despite fog thick enough to cause "visibility zero," in either of two ways: (1) By radio controlled instruments to which are entrusted the handling of the plane in a totally blind landing or (2) by dispersal of fog immediately over the airfield with heat that "burns a hole" through which the pilot can make a normal landing.

This second method has received attention for military service because it does not require instruments in the plant or dectectable radio beams.

The method was first used in England, where it made possible the safe landing of more than 2,500 allied aircraft. Costs for these English landings were high, roughly $3,000 to $4,000 for the 10-min. period assumed as average for one landing. In this country the cost has been reduced to about one-tenth the English figure, and experiments are continuing.

Navy fog dispersal studies in this country are being carried on at the Landing Aids Experiment Station on an exposed, foggy headland at Arcata, Calif., some 350 mi. north of San Francisco.

Methods that use the principle of fog dispersal by heating air over the runway call for extensive construction work on the airfield. At Arcata, this construction has been carried out by Seabees, moved there from Amchitka in the Aleutians.

The Arcata station represents an outlay in cash and value of equipment totaling about $1,000,000. A large share of the attention and cost has gone into fuel storage tanks, pumps and a piping system leading to long lines of burner units that entirely surround the 6,000-ft. runway.

The gasoline used in most of the burners undergoing experiment costs 6.7 cents per gal. and has a 60 octane rating. Fuel requirements, computed roughly on the basis of clearing fog to an 800-ft. altitude in a 20-mi. wind, are 8,000,000 B.t.u. per lineal yard per hour. To supply fuel for consumption on this order, gasoline is brought in by tank cars and pumped to a tank farm where storage for 240,000 gal. is provided. Thence 12-in. mains lead to the burner supply lines on the field. These supply lines are operated under 125 lb. per sq. in., which is cut down as required by pressure-reducing valves at the burner units. The Arcata installation includes about 10 mi. of piping of which more than one-half is in diameters between 4 and 12 in.

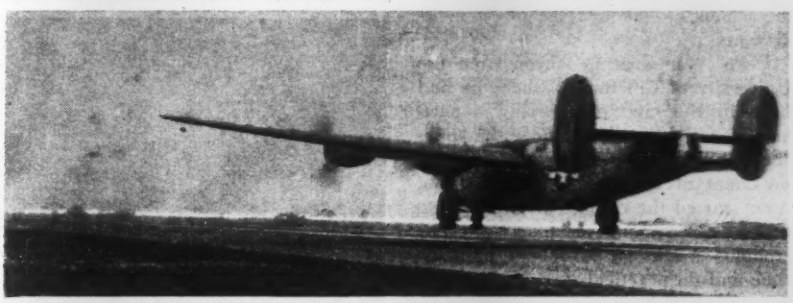
Low-pressure burners under test at Arcata use vaporized gasoline at 30 to 40 lb. per sq. in. The most successful of these is the "Hades," an English type consisting of a preheating unit for vaporizing gasoline and a burner line. Each unit serves a burner pipe about 1,000 ft. long, whose sole function is to maintain a supply of vaporized fuel to the long row of 3/32-in. orifices 3 in. apart. The heating unit is a bank of pipes in a narrow chamber below ground, lined with heat-resistant concrete, usually in precast slab form. Burners in the bottom of the chamber convert liquid gasoline in the pipes into vapor which enters the 8-in. burner pipeline after first passing through a large concrete pier. This pier is an anchor block to protect the preheat unit from the thrust of expansion in the long burner line. Operating temperatures in the burner pipe range up to 800 deg. F., causing elongation as much as 40 in.

A new type high-pressure burner expected to make possible the use of cheaper fuels, such as distillate or diesel oil, is to operate at 1,500 lb. per sq. in. which is sufficient to atomize the fuel. It eliminates need for preheating and attendant delay and smoke.

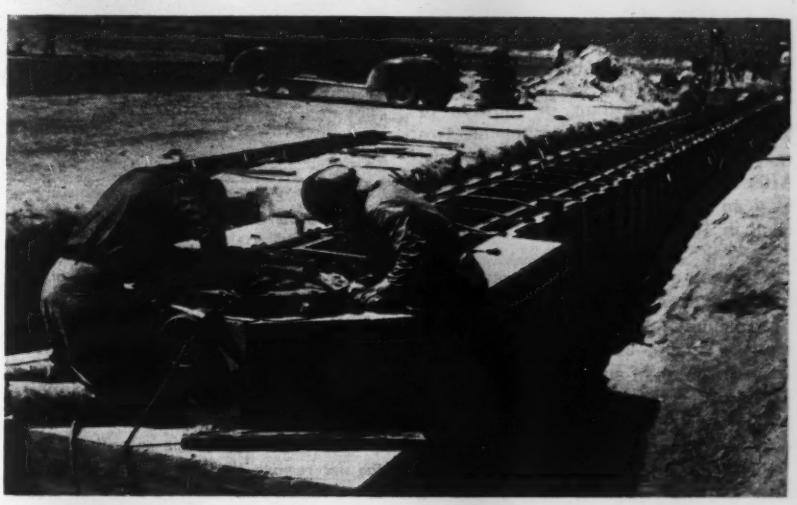
The work at Arcata includes tests on a wind curtain consisting of heated air projected vertically upward, perhaps to a height of 100 ft., from a slot along the top of a duct at ground level parallel to the runway. The theory is that fog drifting in toward the runway will be carried upward as it mingles with the heated air and will dissipate.

Other equipment tested includes a "portable" type gasoline burner that can be knocked down, loaded on motor trucks and moved to another location. A complete field installation weighs about 100 tons and the normal time for erection is about 2 weeks.

The experimental work on landing aids at Arcata is under supervision of Lieut.-Comdr. R. L. Champion, USNR.



Above: Plane landing in a heavy fog through a "hole" kept open by the heat from gasoline burners surrounding a 6,000-ft. runway.



Above: Installing a preheat unit in precast concrete chamber. This unit serves a 1,000-ft. length of burner pipe.

ENGINEERING SCHOOL NEWS

New engineering building at Evansville—Portland, Ore., to have a school of engineering—1136 engineering students at Wisconsin

Evansville College, Evansville, Ind., has signed a contract for an engineering and sciences building to cost $671,900. Other buildings to be erected later are a student union, a gymnasium and a new power plant. Completion of the engineering building will permit the college to expand its current extensive work in the technical field.

Alvan Aalto has resumed his position as professor of architecture and city planning at the Massachusetts Institute of Technology after a leave of absence granted to enable him to go to Finland in 1940 to participate in the reconstruction of battle-damaged towns and in planning shelters in the devastated Lapland areas.

Dean Fred E. Ayer, 69, college of engineering, University of Akron, Akron, Ohio, has announced his retirement to take effect next Feb. 1. First and only man to serve as engineering dean at the school, he has held the position for 31 years.

Dean Ayer went to Akron from the University of Cincinnati, where he had been in the civil engineering department for eight years. Under the sponsorship of the late Dr. Parke R. Kolbe, president of the University of Akron, Ayer started the college of engineering under a co-operative plan whereby students would go to school half the time and do practical work in factories the other half.

During the war, Dean Ayer was coordinator of the Army Specialist Training Program unit, and originally was administrator of the university's engineering, science and management war training program.

At the present time, in addition to his other duties, Dean Ayer teaches two special mathematics classes for veterans. After Feb. 1 he will retain the title of dean emeritus until his final retirement in June, 1947.

A grant of $10,000 has been made toward expansion of the Georgia School of Technology hydraulics division, it has been announced by Cherry L. Emerson, dean of engineering. The fund was granted through the Georgia Tech Alumni Association, by an anonymous donor.

With the aid of the funds, the division will be equipped with a modern fluid-flow laboratory, to be used in engineering research for projects such as the Chattahoochee River waterway to Atlanta, development of ports and sewerage systems, and the laboratory will provide ample experimental facilities for the training of under graduates in this type of work.

With funds bequeathed by the late Mrs. Cora M. Brunner, Evanston, Ill., as a memorial to her husband, John Brunner, the board of trustees of the University of Illinois has established the Brunner memorial endowment for research and advancement in engineering education. Mrs. Brunner left 40 per cent of her estate to the university. The sum of $21,200 has been received as a partial distribution. Mr. Brunner, who died in 1936, was a prominent civil engineer and metallurgist.

The University of Portland at Portland, Ore., will inaugurate a school of engineering as soon as a building can be constructed, according to the Rev. Theodore J. Mehling, acting president. Designs for the building now are being prepared by Architect Francis Jacobberger of Portland. Construction may be completed by next October.

Enrollment in the University of Wisconsin College of Engineering is approaching pre-war levels, it has been revealed by the registrar. There are 1,136 students registered for the current engineering semester. This total includes 134 Navy trainees under the V-5 program, and a group of 340 men of the Naval Reserve Officers Training Corps in the newly-organized service program which began early in November.

Commander William T. Alexander, a member of the faculty since 1936 and on leave of absence during the war has been appointed dean of the College of Engineering, Northeastern University, Boston, Mass. A native of North Harpswell, Me., Dean Alexander was graduated from Northeastern University College of Engineering in 1926 and joined the faculty, becoming head of the department of industrial engineering early in 1939.

(Bureau of Reclamation photo)

Trees are "pushovers" for this special type of dozer

Paul Bunyan's legendary Blue Ox, famous for his work capacity in the forests of the Pacific Northwest, had nothing on this special equipment improvised by the Bureau of Reclamation engineers on the Deschutes Irrigation Project, near Bend, Ore., to expedite removal of trees in Wickiup Reservoir.

Because the root systems of jackpines spread close to the surface an ordinary dozer can not remove the tree in a single motion as the roots would come up under the blade, making it necessary for the operator to back up and make a second forward movement. In the machine pictured above, a protruding bar was attached to strike the tree at a point high above the base and tip it over ahead of the blade, in a single movement.

The clearing of the 10,200-ac. reservoir, in which is being stored the water supply for 50,000 ac. to be irrigated, was partially completed by the now-disbanded Civil Conservation Corps, and more recently has been carried forward with the help of conscientious objectors. The initial irrigation service for 12,000 ac. of land near Madras, Ore., is to be provided next spring.

House passes $434 million measure

(*Continued from first page*)

eservoir, Ga., Bull Shoals Reservoir, rk., Center Hill Reservoir Dam, Tenn., d Bluestone Dam reservoir, W. Va. rojects for which $2,000,000 are proided are: Canton Reservoir in Oklaoma, Ft. Gibson Reservoir in the same tate, work at Kansas City, Mo., Garson Dam on the Missouri River, Los ngeles River and Detroit Reservoir in regon.

The largest rivers and harbors projcts of the Army Engineers approved ere: Monogahela River, $2,700,000; os Angeles and Long Beach Harbors, 7,100,000; the Upper Mississippi iver, $3,439,500; Great Lakes to Hudon River Waterway, (the N. Y. State arge Canal) $2,000,000; Pearl River Mississippi, $1,573,500; and the Missouri River at Fort Peck, $1,185,-00.

The money provided for the Bureau f Reclamation includes $42,765,000 or the general construction fund. This ppropriation includes: Davis Dam, 5,000,000; Central Valley project, 19,215,000; Colorado-Big Thompson, 5,000,000; Columbia Basin, $10,050,-00; Gila project, $2,000,000; and Hungry Horse Dam, $1,500,000. Included in the appropriation for the Cenral Valley project are the following ums: Shasta Dam, $500,000; Delta ivision of the Delta-Mendota Canal, 7,500,000; Friant-Kern Canal, $6,000,-00; Shasta power plant, $885,580; Keswick power plant, $550,000; and a ransmission line from Oroville to Sacamento, $730,000.

The bureau is also provided with 20,442,000 for construction under the pecial reclamation fund. Projects nder this item include: Lugert-Altus roject, $2,020,000; Boise project, 2,000,000, Tucumcari project, $2,000,-00; and Yakima project, $1,650,000.

The sum of $1,000,000 is provided or each of the following projects: Deschutes, Klamath, Riverton in Wyoing, Shoshone, San Luis project in Colorado, and the Palisades project in daho. Also included in the special und are: Minidoka project in Idaho, 720,000; Rio Grande, $750,000; Kenrick, $500,000; Provo River, $860,-00; and power division, $1,124,000.

Other Bureau appropriations are: 3,000,000 for the All-American Canal, 250,000 for the Colorado River develpment fund, $480,000 for construction f a transmission line from Fort Peck o the Garrison Dam site on the Missouri River, and over $10,000,000 for ork in the Missouri River Basin. The atter money will permit start of conruction of Kortes, Angostura and Boysen dams.

The $25,000,000 appropriation for the Public Roads Administration will be spent in accordance with the Federal Highway Act of 1944, which provides $500,000,000 of federal-aid during this fiscal year (*ENR* Oct. 11, vol. p. 463). The $12,500,000 for the Bureau of Community Facilities will be used to aid local public works planning groups and supplements a previous allocation for this purpose.

With the $24,500,000 provided for veterans housing, the National Housing Agency expects to disassemble in panel form 25,000 temporary dwelling units. The housing will then be shipped to new sites and reerected by the local communities.

Money provided for the District of Columbia includes $320,000 for sewer construction and contractual authorization for over $6,000,000 for public school construction.

Before passing the bill the House failed to include money for the International Boundary Commission, as requested by the President. The plan was to start the program which can now go forward in accordance with the recently approved Water treaty between the U. S. and Mexico. The house felt that this program should be studied more closely and included in a later appropriation bill.

Mississippi's 3-yr. plan for roads considered

To be considered at the January session of the state legislature of Mississippi is a 3-year, $60,000,000 highway program, to be financed by the state and federal governments.

The program, as approved by the House and Senate legislative committees on highway financing, calls for:

1. Repayment to the highway department of $1,052,000 out of the general fund for monies transferred from its construction fund.

2. Approval of issuance of additional highway bonds, pledged against the gasoline tax, up to $24,100,000, beginning next July 1 in amounts as needed for the program.

3. Completion of the main highway federal aid system with expenditure during the first three years of $12,300,000 in state monies put up by the Highway Department, to be matched by a similar amount of federal funds.

4. Inauguration of an urban highway program through municipalities of 5,000 population and over, to cost $1,800,000 in state funds in 3 years, to be matched by the federal government.

5. A secondary federal aid farm-to-market road system bond issue for a total of $20,000,000.

6. A $10,000,000 county farm-to-market program to be financed $5,000,000 out of the general fund surplus and $5,000,000 by the counties.

Shocked seagulls sidestep Seattle

W. C. Morse, water superintendent at Seattle, Wash., doesn't care for the type of patronage the city reservoirs get from the seagull population and is taking steps to discourage it.

At a cost of $3,000 he is installing a system of charged wires at the new Magnolia reservoir and will duplicate the installation at other reservoirs if it proves successful.

Seagulls like a sip of fresh water now and then and the new reservoir, on a bluff just above Elliott Bay, gathering place for thousands of gulls, is a handy place for them. Unfortunately, droppings from the birds pollute the water.

Criss-crossed wires, half of them electrified, will be strung about six feet above the water, with the paired wires an inch apart but with six feet between one pair and the next.

"The jolt will not be hard enough to hurt the birds—it will just tickle them and make them squawk and go some place else", Mr. Morse explained, in discussing the program last week.

Experiences with charged wire protection against seagulls at other California seacoast cities (San Francisco and Oakland) are detailed in *ENR* Jan. 20, 1938, p. 110 and Mar. 26, 1942, vol. p. 500.

MEN AND JOBS

James F. Parkinson has resigned as Portsmouth, Ohio, city manager to assume a similar post in Bay City, Mich. He formerly was assistant city engineer at Columbus and Cincinnati.

P. K. Troutman, Ashland, Ohio, has been named acting director of Division 3 of the Ohio Highway Department, succeeding the late Howard A. Keller, Bucyrus. Troutman has been engineer for location and design since June, and formerly served with the highway department at Newark.

Lt. Col. H. W. Van Hovenberg, chief of field party for the Institute of Inter-American Affairs in El Salvador, has been awarded a gold medal on behalf of the Ministry of Health of El Salvador. Under Colonel Van Hovenberg's direction, a number of medical and sanitary engineering projects were brought to completion in that country.

Col. Waldo I. Kenerson, U. S. Engineers Corps, and formerly identified with various New England engineering projects, has been awarded a special decoration by the Chinese government. A graduate of Massachusetts Institute of Technology, he has been active in the development of airports in Brazil and China.

Roy Thelen, chief of the division of timber physics, U. S. Forest Products Laboratory, Madison, Wis., for the last 26 years, retired Oct. 1. He was succeeded by **Raymond C. Rietz,** a staff member of the laboratory since 1928. A graduate of the University of California in 1904, Mr. Thelen has been with the laboratory since it was founded in 1909. For several years he had charge of the engineering section.

W. C. Olsen, Raleigh, N. C., consulting engineer, has been retained for engineering work on proposed airport sites at Henderson, N. C., by the Henderson City Council and the Vance County Board of Commissioners.

Axel O. Olson, manager of San Francisco's Bureau of Heat, Light and Power, has been appointed manager and chief engineer of the Hetch Hetchy Water Supply, Power and Utilities Engineer Bureau. He succeeds **James H. Turner,** recently appointed manager of utilities, succeeding E. G. Cahill. (ENR, Oct. 11, vol. p. 469). Olson came to this country from Sweden in 1917 and was employed by several engineering firms in San Francisco, including the engineering department of the Pacific Gas & Electric Co., where he was in charge of the preparation of plans and designs for the Pit River, Melones, and Vaca-Dixon projects.

Joe L. Campbell, civil engineer, who recently returned to the United States after three years with the Rubber Development Corp., in Colombia, South America, is now with the Public Roads Administration at Harrisburg, Pa.

Oscar D. Chrisman, Missouri State Highway Department division engineer at Springfield for the last three and half years, has resigned to become a consulting engineer.

Richard Salmon, R. P. I., 1928, is with Barr & Lane, Inc., of New York City on a construction project at Cornell University, Ithaca, N. Y., as project engineer. He recently returned from Peru where he had been for two years building hospitals, health centers and other sanitary works for the Office of Inter-American Affairs.

Lorenz and Metcalfe, a new firm of consulting foundation engineers, has been formed in Davenport, Iowa. The principals are **Merrill C. Lorenz** and **H. Moore Metcalf.** Mr. Lorenz was associated with the U. S. Engineer Department at Rock Island, Ill., for a number of years, in charge of the foundation investigation section and the construction section. Mr. Metcalfe was formerly employed by the Iowa State Highway Commission on bridge construction and also taught engineering at the University of Idaho and at Montana State College.

Edward H. Brietzche, harbor engineer of Montreal, Que., has retired after 36 years. Before joining the staff of the National Harbors Board in 1909, he did construction work in the Gaspé region.

Formal promotion of **Edward T. Gawkins** of Albany to deputy chief engineer in the division of construction in the New York State Department of Public Works has been announced. He had held the position provisionally since last April. Mr. Gawkins studied civil engineering at Syracuse University, and served as an officer in the Army Engineer Corps in World War I. In 1940 he was appointed assistant commissioner of highways and in 1944 he became assistant superintendent of public works.

Forbes & Brett, a newly-formed engineering organization of Auburn, Wash., has been appointed city engineer of Auburn, succeeding the late J. A. Fallgreen. **Earl Forbes,** registered civil engineer, has practiced engineering in the Pacific northwest for 30 years. **Lester E. Brett,** registered land sur-

Back to civilian activity

Howard P. Maxton has left the Bureau of Yards and Docks of the Navy Department, to join the Raymond Concrete Pile Co., N. Y. C.

Sgt. Claire Harrington has returned to his post as assistant civil engineer with the Sewerage Commission of Milwaukee, Wis.

Maj. Clarence W. Klassen has returned to his post as chief sanitary engineer for the Illinois Department of Public Health. He had served as chief sanitary engineer, headquarters staff, Eighth Service Command.

Capt. James R. Donaldson, recently with the Third Army combat engineers, has been named city engineer of Menomonie, Wis.

Paul B. Cook, Seabee lieutenant commander, resumed his post as Lake County sanitary engineer, Painesville, Ohio.

Thomas Jefferson, recently a member of the Navy's Civil Engineer Corps, is now resident engineer for preliminary surveys and supervision of construction on a new sewage disposal system and plant for South Bend, Ind.

William H. Franklin, for three years a member of the Corps of Engineers, and formerly president of the W. H. Franklin Co., Springfield, Ill., contractors, has returned to Springfield to resume private work.

Maj. Philip S. Davy, now post engineer at Ft. Leonard Wood, Mo., and his father, **Frank J. Davy,** former chief of the road, railroad and runways branch of the repair and utilities division, Sixth Service Command, soon will reopen their business as Frank J. Davy and Sons, consulting engineers.

Maj. David B. Lee, formerly with the Army's Sanitary Corps, has returned to the job of chief sanitary engineer for the Florida State Board of Health.

William S. Foster, engineering editor of the *American City Magazine,* has returned to that job after two years in the Navy.

...or, previously had been with the ...S. Engineers and also had been ...ociated with Mr. Fallgreen.

Howard J. Carlock has been ...inted chief engineer of the Bogert-...ilds Engineering Associates, con-...ting engineers, retained by the Ber-...n-Hackensack Sanitary Sewer Dis-...ct Authority to study the sewerage ...oblems of the Overpeck Creek and ... Bergen County, N. J. Recently the ...m completed plans for the recon-...uction of Beattie's Dam at the Little ...lls intake for the Passaic Valley ...ater Commission.

Ray Etzel has been named chief ...puty of **Melvin H. Rice,** Lucas ...unty, Ohio, engineer at Toledo. He ...placed Mr. Rice, named by county ...mmissioners to serve the unexpired ...m of **Bernard G. Kesting,** resigned ...rmer county engineer. Mr. Etzel had ...en assistant division engineer of the ...hio Highway Department since Feb-...ary, and prior to that was with the ...deral government in Detroit.

Alfred J. Runnals, road engineer ...r the Vermont Department of High-...ays since 1925, has become consult-...g engineer for the New England ...etal Culvert Co. of Boston, associated ...th Armco Drainage & Metal Prod-...cts, Inc., Middletown, Ohio.

Ben S. Sawyer, formerly of Seattle, ...ash., has become assistant city engi-...er at Corvallis, Ore. He was gradu-...ed from the University of Detroit in ...930 and has been engaged in engi-...eering work in Portland and Seattle.

Thomas S. Burns, formerly chief ...f the engineering division in the U. S. ...ngineer Office at Providence, R. I., ...as assumed similar duties in the ...U. S. Engineer Office at Syracuse, ...N. Y., where he will have supervision ...ver engineering investigations and de-...igns for various flood control projects ...n the Upper Susquehanna, Mohawk, ...nd Oswego River watersheds in New ...York and Pennsylvania.

Frank Lubin, formerly project engi-...eer for the Federal Public Housing ...uthority at Vancouver, Wash., has ...een appointed technical adviser to the ...uthority for Region 9, with head-...uarters in Seattle.

George Douglas has resigned as city ...ngineer at Grandview, Wash., to enter ...he field of industrial construction.

L. M. Hoskins has been appointed ...ivision 1 engineer for the Missouri ...tate Highway Commission at St. ...oseph. Hoskins was assistant construction engineer of the commission at Jefferson City headquarters, and has been with the department almost ten years.

George S. Whitmore has been appointed staff topographic engineer in the topographic branch of the Geological Survey. He goes to the Survey from the Tennessee Valley Authority and has a background of 30 years in engineering and mapping. He has been a consultant to the government of Brazil on a recently completed new national mapping program.

E. Irvine Rudd, for many years chief engineer of the Connecticut Public Utilities Commission, has retired. **Elmer C. Nuesse,** associate utilities engineer, will attend to Mr. Rudd's duties for the present.

New Army district engineers

Col. Bartley M. Harloe has become Memphis district engineer for the U. S. Engineer, **Col. Garner W. Miller,** district engineer since 1943 remains on active duty as assistant. Colonel Harloe, recently on duty as a member of the postwar committee of the Joint Chiefs of Staffs, was graduated from the U. S. Military Academy and commissioned as second lieutenant in the Corps of Engineers in 1917 and immediately promoted to captain (temporary). His promotion to Colonel (temporary) took place Feb. 1, 1942. In the first World War he was with Headquarters, Services of Supply in France. Later he was with the 3rd Engineers in the Philippines.

In July, 1935, he was named assistant district engineer of the Upper Mississippi Valley Division. In 1939 he became chief engineer of the Works Progress Administration. In 1942 he became executive officer of the Supply Division and the War Department General Staff.

Col. Walter E. Lorence has been appointed district engineer of the Pittsburgh. Pa., engineer district, succeeding **Lt. Col. Charles M. Mellons.** Colonel Lorence was born at Hoboken, N. J., Dec. 16, 1893, and was graduated from West Point in 1918 and was appointed a 2d lieutenant, Corps of Engineers, Regular Army. After very extensive educational and military experience, including service with Advanced Section No. 3, Service of Supply, in the India-Burma theater on the Lido Road, he became chief, Industrial Personnel Branch, Office of the Chief of Engineers, Washington, D. C.

Col. George Mayo, has become district engineer of the San Francisco district, U. S. Engineer Department, relieving **Col. Kenneth M. Moore,** who has been transferred to the Duluth, Minn., district. Colonel Mayo is a graduate of the University of California, 1911, and he entered the Corps of Engineers by examination in February, 1916.

From 1928 to 1931 he commanded the 1st Regiment of Engineers and Fort DuPont, Del. This was followed by duty at the Command and General Staff school and service in the 3d Engineers in the Hawaiian Islands. Later **Colonel Mayo was** chief of the Fortifications Section. In World War II Colonel Mayo was chief of the Caribbean Defense Command and subsequently division engineer of the Panama Engineer Division. Later he was chief engineer of the Army Air Forces.

Col. John S. Seybold has been named district engineer at the Syracuse, N. Y., Engineer District, Maj. Gen. Thomas M. Robins, Deputy Chief of Engineers has announced. He succeeds **Lt. Col. John H. Elleman.**

Colonel Seybold was born in Topeka, Kan., July 2, 1897, and was graduated from West Point in 1918. He became a 1st lieutenant in the Corps of Engineers, July 2, 1920, and a year later received the degree of bachelor of science in civil engineering at Rensselaer Polytechnic Institute. After many assignments with the Army and in educational institutions he became a full colonel on July 4, 1942. Latterly he was chief of the Procurement Branch.

Canadian supply dealers urge end of controls

Abolition of all controls having a retarding influence on building in Canada was urged upon the Dominion government by the Canadian Builders Supply Association at its annual meeting in Ottawa, recently.

Price controls alone were excluded from the restrictions which the meeting wished to see removed. The latter include building permits, priorities for materials, and the employment of all labor through the National Selective Service of the Canadian Department of Labor. The meeting decided to ask the federal government how it plans to dispose of the 1946 production of building materials and supplies.

At the same time, lumber dealers were protesting against the turning over by Reconstruction Minister Howe of 900,000 bd. ft. of white pine lumber to Wartime Housing Limited, the government-owned public housing company. Horace Boultbee, secretary-manager of the Ontario Retail Lumber Dealers' Association, in a public letter to Mr. Howe, said that hundreds of houses under construction in Ontario had been halted for lack of lumber and mill supplies.

Soil samples collected at overseas airbases

Samples of the various types of soil found on the numerous airfields occupied or constructed by the Army Air Forces in all the war theaters are now being collected by the Aviation Engineer Forces. A 50-lb. sample of the soil types obtained at each airbase is being shipped to Geiger Field, Spokane, Wash., where Capt. E. D. Parmer is in charge of the soils laboratory.

The men collecting the samples have been instructed to exercise care to insure that each is a representative type of the local subgrade and base course material as used in constructing the field. The men have also been asked to obtain any soil testing data conveniently available on foreign soils previously collected at the airbases or at nearby locations.

Kansas soil laboratory

In order to study the best use of available materials, the Kansas Highway Commission recently opened an office and laboratory at Baxter Springs, under supervision of M. G. Dickson, civil engineer. Waste piles from ore refineries near the site will be studied.

U. S. Engineers plan dam for Tennessee Chute

What may prove to be one of the South's largest engineering projects, the damming of the head of the Tennessee Chute in the Mississippi River above Memphis, Tenn., at an estimated cost of $18,000,000, is being prepared by the United States Engineers for submission to Congress for federal aid.

A dam at the head of the chute formed by the jutting of President's Island into the Mississippi River would make it possible to develop for harbor expansion the entire eight miles of shoreline between the city and the dam. Engineers said that completion of the undertaking would make available 9,000 additional acres of industrial sites and provide more water recreational facilities.

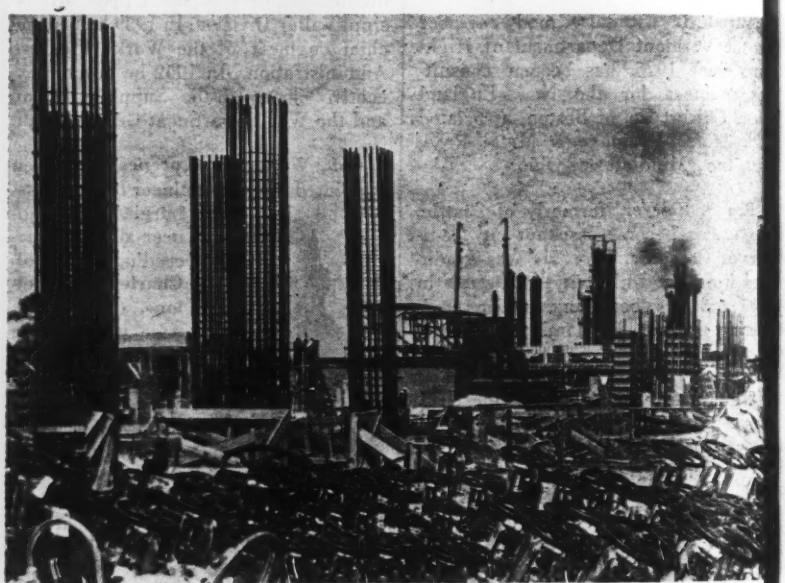
The plan has been called the "Tyler Plan" since it was first suggested by Brig. Gen. Max C. Tyler, retiring president, Mississippi River Commission.

Mississippi must pay for counties' roads

Reviving a 1930 statute that provide for reimbursement to counties for sec tions of county roads taken into th state highway system, the Mississipp State Supreme Court in a decision re cently placed the state's $60,000,00 highway building program in an "un certain" position, officials said.

The court had considered a su brought by Hinds County, demanding an appraisal of sections of U. S. High ways 51 and 80, now included in th state maintained system. In a four-to two decision, the court said that th 1930 statute was applicable, and tha the state must comply with the county request.

Walter Spiva, highway departmen director, said results of the decisio might cost the commission between $ and $8 million, since all counties an municipalities have the same appraisa and payment rights.



Juan Guzman photo

Mexico oil refinery improvements cost $19,000,000

Petroleos Mexicanos will invest $19,000,000 in improvements to its Mexico refineries. A feature of the program is the modernization and enlargement of the Atzcapotzalco refinery, some of the new construction of which is shown above. This refinery is one of the largest in Mexico. Planned also is improvement to the pipeline from the Rica oil fields to Atzcapotzalco, and an absorption plant at Poza Rica, which is expected, with the treatment of casing head gas, to enable the zone to yield at least 75,000,000 cu. ft. of oil daily.

The progress of the program, the company says, signifies much for national economy, because it is a step toward larger industrialization of the country.

Efrain Buenrosto, managing director of Pemex, says that 65 percent of the material and equipment for the Atzcapotzalco work has been received from the United States as well as material for the pipeline. He said that if obstacles for delivery of the other 35 percent of the material do not arise, the job will be ready for first tests late in December.

The new Atzcapotzalco plant, Mr. Buenrosto said, will start operations with a daily production of 40,000 barrels, which will ultimately be increased to 50,000.

U. S. foreign building totals $2.4 billion

The Commerce Department has reported that from July 1, 1940, to June 30, 1945, the United States spent $2,413,000,000 abroad for 3,013 military installations, such as air bases and port facilities.

More than half of the total was for bases in the British Commonwealth, as follows:

United Kingdom, $230,000,000; Australia and New Zealand, $238,000,000; Canada, $370,000,000; India, $126,000,000; Bermuda, $77,000,000; British Pacific islands, $146,000,000; Newfoundland and Labrador, $123,000,000; other areas $38,000,000.

Of the grand total $192,000,000 was spent on Japanese islands taken in the Pacific; $173,000,000 in the Philippines; $252,000,000 in the possessions; $67,000,000 in Iran; $64,000,000 in Italy and $89,000,000 in other sectors.

Tulsa votes $3 million water improvements

Tulsa, Okla., voters Nov. 20 approved a bond issue to finance a $3,000,000 water supply improvement program.

Under the program, the city will:

Raise the height of the reservoir at Spavinaw Lake at Mohawk; construct flood protection works for the Mohawk plant; revise the distribution system to conform with a current street widening program; install fire lines and hydrants in all sections of the city, and construct a centrally located warehouse for meter repair and storage.

Kramer to represent U. S. in interstate compact

Brig. Gen. Hans Kramer has been appointed by President Truman as United States representative in water-rights compact negotiations to be undertaken by the states of Colorado and Kansas. (*ENR* Mar. 22, vol. p. 373).

Now military assistant to the President of the Mississippi River Commission at Vicksburg, Gen. Kramer will assume his new duties after Dec. 31, when he goes on the Army's retired list because of disability incurred in the Pacific theater.

The compact is sought as a means to end the 30-year dispute over diversion of the headwaters of the Arkansas River. Conditions are complicated by the construction by Army Engineers of John Martin Dam near Caddoa, Colo. The Supreme Court recently refused to decide the issue and directed the two states to settle the matter through negotiation under constitutional compact laws.

Further public works planned for Toronto

Further public works projects in view for Toronto, Ont., in the immediate future are new school buildings estimated to cost half a million dollars, and two new traffic arteries to relieve traffic congestion. The school construction approved by the Federal Department of Reconstruction, will commence early next spring.

The board of control of the city council has approved plans for the elimination of a bottle neck on one of the main North-South routes leading into the city, at McLennan Hill, by the construction of a road extension and new subway under Canadian Pacific Railway tracks. The board has also approved the construction of a new express highway up the Don River Valley, to the northern end of the city. The estimated cost of the two projects will be about seven million dollars. Voters of the city will be asked to approve the construction of these works by referendum in the annual city elections on Jan. 1.

Oklahoma's road costs doubled during war

Oklahoma's highway building costs have virtually doubled during the war years, according to Chief Engineer H. E. Bailey and other officials of the State Highway Commission.

"The cost of a mile of concrete road before the war was 30,000 dollars, and now contractors are asking $60,000 and $65,000 a mile," Bailey said. "Some of our more conservative taxpayers have asked that brakes be put on the highway program until prices go down, contending that what the state alone contributes in the 50-50 state-federal road program would pay costs in normal times.

"The money for the first year of our road building program is now ready —about $20,000,000, and by July 1, 1946, we will ask approval of projects for the second year's highway construction. This prediction is based upon the belief, that the state by that time will have accumulated a $10,000,000 surplus available for road construction. Bids will be asked soon on almost $4,000,000 worth of highway."

F.A.Banks and R.J.Newell in new Reclamation posts

Appointment of Frank A. Banks as supervising engineer for the million-acre Columbia Basin irrigation project, and of Robert J. Newell as regional director for the Bureau of Reclamation in the Pacific Northwest has been announced by Secretary of the Interior Harold L. Ickes.

Both men are veterans in service with the bureau and in development of western water resources. Mr. Banks was supervising engineer for construction of Grand Coulee Dam, and will now devote full time to completing the irrigation and power facilities of the Columbia Basin Project.

F. A. Banks R. J. Newell

Joining the bureau staff in 1906, Mr. Banks has served in various engineering capacities in the construction of western reclamation projects. He was construction engineer for the American Falls Dam on the Snake River in Idaho and later supervised construction of the Owyhee Project in Oregon. He served for a time as acting administrator of the Bonneville Project in Washington-Oregon, and since October, 1943, has been regional director for the bureau.

Mr. Newell assumes his new post as regional director at the Boise, Idaho, office after having served as assistant and associate director since the Region I office was established in October, 1943. He joined the bureau's staff in 1903, a year after the agency was established. He left the bureau in 1908 and returned in 1922. His service has included assignments on the Boise and Owyhee Projects.

As regional director, Mr. Newell will direct development activities of the bureau in the area comprising the states of Washington, Oregon, Idaho, and Western Montana.

Building permits in Phoenix, Ariz., for the 10 months ended Oct. 31 soared in valuation to $5,546,312—a figure which local authorities believe almost certainly will be boosted by the end of the year to an all-time high.

Seek U. S. operation of Rio Grande conservancy

Directors of the Middle Rio Grande Conservancy District of New Mexico will seek to have government agencies take over the operation of their district, it was announced after a recent meeting.

The proposal was previously contained in a bill submitted to Congress by Clinton P. Anderson shortly before he resigned as Representative from New Mexico to become Secretary of Agriculture last July.

The bill requests the Army Engineers to assume responsibility for flood control in the middle Rio Grande Valley, reimbursing the district for about $2,000,000, cost of completed structures, and for the Bureau of Reclamation to assume actual operation of irrigation systems in the area.

Oil pipe line permitted over city's protest

Permission to run a pipe line under the Merrimack River above Lawrence, Mass., has been granted the Colonial Beacon Oil Co., Boston, by the State Public Works Commission despite opposition by the City of Lawrence. City officials charged that leakages from an oil pipe line might prove injurious to the health of people using water from the river. (*ENR* Nov. 2, 1944, vol. p. 108).

The oil company contended that the pipe line is well protected against possibilities of breaking. However, construction may be delayed pending action on a suit filed by Lawrence city officials which seeks to have the license to build revoked and to order that the Massachusetts Department of Public Works prevent its construction.

California builders pledged to uniform wage

At the recent annual conference of the Building Contractors' Association of California at Los Angeles, a resolution was passed pledging the organization's co-operation in the maintenance of a uniform wage scale.

Glenn Bailey, president of the association, warned the contractors against excessive profits in any construction, as likely to cause trouble throughout the building industry including the removal of one of the best safeguards against the return of government controls.

JOBS OF THE WEEK

OFFICE, New Haven, Conn.

New York, New Haven & Hartford Railroad Co., New Haven, Conn., awarded a contract for the construction of an 8-story office to Robert Glenn Builders, Inc., New York, N. Y., at $1,800,000. Douglas Orr, New Haven, Conn., is the architect. Hubbard, Rickerd & Blakely, New Haven, are the engineers.

PLANT, Toledo, Ohio

Stone & Webster Engineering Corp., Boston, Mass., will design and construct a plant for manufacturing plastics, an experimental and pilot plant, water reservoir, spur tracks, sewers and roadways on 40-acre tract for Plaskon Division, Owens-Ford-Glass Co., Toledo, at about $5,000,000.

HOTEL, Cincinnati, Ohio

Frank Messer & Sons, Inc., Cincinnati, Ohio, will build a hotel for Plaza Terrace Hotel, for whom Thomas Emery's Sons, Inc., Cincinnati, are architects on the project in association with Skidmore, Owings & Merrill, Chicago, Ill. The estimated cost is $8,000,000.

HOSPITAL, Peekskill, N. Y.

Cauldwell-Wingate Co., New York, N. Y., was the lowest bidder at $11,297,000 when the Veterans Administration, Washington, D. C., opened bids on Veterans Hospital.

DEPARTMENT STORE, Los Angeles, Calif.

Joshua H. Mark Co., Los Angeles, Calif., has been awarded a contract by The May Co., Los Angeles, for a 3-story, department store to cost about $2,000,000. A. C. Martin, Los Angeles, is the architect.

FACTORY, Pittsburgh, Pa.

American Brake Steel Co., New York, N. Y., awarded a contract for a factory to Ragner-Benson, Inc., Chicago, Ill. The estimated cost is $1,500,000.

BALL BEARING PLANT, Sandusky, Ohio

National Concrete Fireproofing Co., Cleveland, Ohio, has been awarded a contract to build a 600x600 ft. factory, 60x480 ft. engineering, employment and dispensary building, boiler house, incinerator, sewage disposal plant and truck garage by General Motors Corp., New Departure division, Bristol, Conn. The estimated cost exceeds $1,000,000. Albert Kahn Associated Architects and Engineers, Detroit, Mich., are the engineers and architects.

PLANT, Wheeling, W. Va.

Engstrom & Wynn., Wheeling, have been awarded a contract by Wheeling Machine Products Co., Wheeling, to build a plant to cost about $1,000,000.

Note—Additional bidding and contract news on many projects large and small, including the above items, appear in the Construction News section beginning on page 18.

A 6-year program for Philadelphia housing

The Philadelphia Housing Authority recently announced a $117,000,000, 6-year building program and the recommendation has been approved by Mayor Bernard Samuel. The project calls for 19,500 dwelling units to be built for occupancy by low-bracket wage earners.

The authority will concentrate on building in blighted areas of the city, and under present plans will not build in the outlying sections.

The $117,000,000 cost will cover land acquisition, demolition and reconstruction of the sites, with necessary interior streets, water mains, sewers, improvements and community buildings, landscaping, playgrounds and the construction and equipment of the housing.

Portland cement up 10¢ per bbl. in the South

An increase of 10 cents a barrel in producers' ceiling prices for Portland cement in Georgia, Alabama, Tennessee, Louisana, Mississippi, North Carolina, South Carolina, Florida and most of Virginia has been announced by the Office of Price Administration.

The increase became effective Nov. 10, and returns earnings to producers in the area equal to their average aggregate dollar earnings during the peacetime years 1936-39, OPA said.

The higher price may be passed on to buyers by all resellers. Ceiling prices for Portland cement in those states in sales by dealers to consumers currently are said to be between $2.75 and $3 per barrel.

OBITUARY

James Leland Crider, 77, a civil engineer who specialized in railroad construction during his 47-year career, died Nov. 27 in Mount Vernon, N. Y. A graduate of the University of Western Pennsylvania in 1888, he was engineer in charge of the construction of the New York, Westchester & Boston Railway, which connected The Bronx with White Plains and Port Chester, N. Y.; and the Oakland, Antioch and Eastern Railroad, a suburban electric line through mountains on the shore of San Francisco Bay. He retired ten years ago.

Fritz James Lewis, 70, Mandeville, La., who had been a construction engineer on the Panama Canal, died Nov. 18. After his Panama work he went to Chile with the Guggenheim Exploration Corp., serving as chief engineer in charge of power development for the Anaconda copper mines.

Walter Atherton, 82, architect at various times associated with engineering enterprises, died Nov. 23 at Boston, Mass. Educated at Harvard University, Massachusetts Institute of Technology, and later at Paris, Atherton joined the United States Geological Survey and participated in surveys of the Grand Canyon and the Colorado River. He was said to be the first to install mechanical sterilization and filtration in swimming pools. He designed and supervised construction of many buildings for the Y.M.C.A., public schools systems and private homes in New England, New York, and New Jersey. During the first world war he taught military mapping to the training corps at Harvard.

Pusey Jones, 65, member of the firm of Larson, Jones & White, consulting engineers, Cincinnati, Ohio, died Nov. 22. Mr. Jones went to Cincinnati 17 years ago as a member of the engineering staff which planned the Cincinnati Union Terminal and which later designed and constructed the Columbia Parkway Viaduct in that city. He had specialized in construction of railroad bridges and was bridge engineer for several years for the Boston & Maine Railroad. He received his engineering degree from the University of Delaware.

Kimball Fred Mooney who had served as chief of the control unit of the South Atlantic Division of the United States Engineers since July, 1942, and who held a similar position during the building of the Alaska Highway died Nov. 12 at Hogansville, Ga.

Myron S. Falk, 67, Greenwich, Conn., civil engineer and co-author with William A. Burr of textbooks on the design of bridges, died Nov. 26. He was a civil engineer graduate of Columbia University, 1899, and a mechanical engineer from Stevens Institute 1900. From 1903 to 1913 he taught in the civil engineering department of Columbia.

In 1904 Mr. Falk was appointed to the New York Bay Pollution Commission, and a year later became consulting engineer to the New York State Water Supply Commission. In the first world war, he was a major in the Ordnance Department of the Army. In 1927 he became vice president and chief engineer of the American Bemberg Corp., for which he built a manufacturing plant in Johnson City, Tenn.

He retired in 1928, but in January, 1941, was appointed as consulting engineer to the ammunition division of the Army. He assisted in the construction of 60 ammunition plants and received the civilian award of merit.

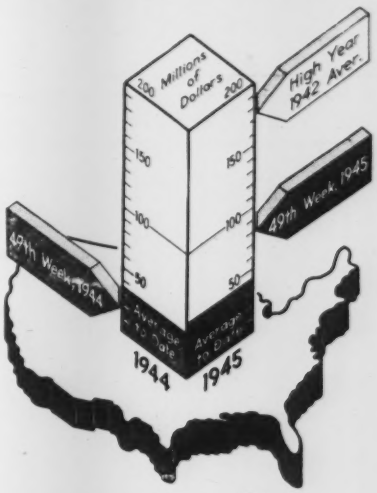
William Mitchell Hoover, 63, who designed flood walls for the Kansas and Missouri Rivers, for the U. S. Army Engineers, died in New York City Nov. 19. A graduate of the University of Pennsylvania, Mr. Hoover's major interests were the appraisal of railroad properties and the control of floods. From 1914 to 1922 he was cost engineer for the Interstate Commerce Commission. In this capacity he prepared the cost data on the Washington Terminal Co. and on the operation of 50,000 miles of track in the Trunk Line and New England territory.

For the next decade, Mr. Hoover was in private practice, returning to government service in 1933.

Charles Leslie Marks, superintendent of bridges and buildings for the Chesapeake and Ohio Railway Co., with which he had been employed for 45 years, died Nov. 17.

Charles Nathaniel Smith, 85, a pioneer contractor of Dallas, Tex., where he was active for 50 years, died there recently. He built many of the city's early public buildings, including the old city hall and a number of schools. The city's first building inspector, he served in that department from 1909 to 1928. He also supervised the construction of the first storm sewer in Dallas.

CONSTRUCTION ACTIVITY



As Reported This Week to... *Engineering News-Record*

CONTRACT VOLUME

Continental U. S. Only (Thousands of Dollars)

	Week of Dec. 6 1945	Cumulative 1945 (49 wk.)	Cumulative 1944 (49 wk.)
Federal	$3,943	$733,266	$1,070,321
State & Mun.	21,554	371,616	234,553
Total Public	25,497	1,104,882	1,304,874
Total Private	54,844	1,026,858	349,747
U. S. Total	**$80,341**	**$2,131,740**	**$1,654,621**

WHERE CONSTRUCTION ACTIVITY ORIGINATED THIS WEEK

Type of Work	Dollar Volume (Thousands) This Week	Cumulative 1945 (49 wk.)	Cumulative 1944 (49 wk.)
Waterworks	$5,552	$59,514	$32,350
Sewerage	883	32,757	30,559
Bridges	3,977	43,884	15,260
Highways	8,556	215,031	186,569
Earthwork, Waterways	486	54,572	62,834
Buildings, Public	3,670	452,153	623,150
Industrial	30,171	575,917	167,099
Commercial	23,592	335,993	134,725
Unclassified	3,454	361,060	402,075

NOTE: Minimum size projects included are: Waterworks and waterway projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1945 (49 wk.)	Cumulative 1944 (49 wk.)
NON-FEDERAL	$690,449	$422,562
Corporate Securities	190,811	107,220
State and Municipal	359,352	170,402
RFC Loans	24,600	61,940
REA Loans	60,000	20,000
Fed. Aid Highway	79,000	63,000
FEDERAL	1,049,898	1,263,800
Total Capital	1,763,661	1,686,362

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Dec. '45	313.48	150.69
Building Cost	Dec. '45	240.82	130.18
Volume	Nov. '45	173	76

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager — *DARWIN R. DAY, Statistics* — *J. A. MAHONEY, Reports*

(Daily service also available—Write for details)

WATER SUPPLY

BIDS ASKED

Bids Asked December 10

Conn., Middletown—State of Conn., Comptrollers Office, State Capital, Hartford, water sys. extens., incl. c.i. main, chlorination plant, Connecticut State Hospital.

N. Y., New Rochelle—Dpt. P. Wks., County Office Bldg., White Plains, dam repairs.

Bids Asked December 11

Mass., Weymouth—Town, Water Comrs. Office, Water Div., Town Hall, 1 m.g. steel standpipe. To exceed $15,000. Weston & Sampson, 14 Beacon St., Boston, engrs. CD 3/6—ENR 3/9, under Postwar Projects.

N. Y., New York—Comr. Water Supply, Gas & Electricity, Municipal Bldg., Zone 7, hauling, laying, lowering watermain, appurtenances in Lucille and Arden Aves., and in Knauth Pl., Richmond Boro.

Bids Asked December 14

O., Cleveland—City, City Hall, watermain in Ivanhoe Rd. J. C. Wenrich, City Hall, city engr.

Bids Asked December 18

Minn., Thief River Falls—City, P. G. Pederson, clk., water treatment plant, etc. $250,000. Plans deposit $10. Lium & Burdick, Grand Forks, N. D., engrs. CD 10/18—ENR 11/1.

Wash., Pasco—City, City Hall, 24,000 ft. 6- to 10-in. c.i. pipe, fittings. **$15,000.** CD 8/8—ENR 8/23, under Postwar Projects.

Bids Asked December 27

N. Y., Smithtown—St. James Water Dist., c/o Bd. Supervs. Town of Smithtown, Town Hall, water supply sys. at St. James. $280,000. H. C. Stevens & R. C. Wheeler, 6 Carver Pl., Huntington, engrs. CD 10/1—ENR 10/18.

Bids Asked January 7

Wash., Lynden—City, City Hall, 200,000 gal. steel tank and tower. Over $15,000, E. A. Knittel, City Hall, engr. CD 11/14—ENR 11/29.

Bids Asked January 2

★**Pa., Lebanon**—Mayor and City Council, City Hall, reservoir, dam, appurtenances at High Bridge. Plans deposit $20. Bids 10/22 rejected. Gannett, Fleming, Corddry & Carpenter, Inc., 600 N. Second St., Harrisburg, consult. engr.; adv. ENR 12/6. CD 10/31—ENR 11/8, under LB.

Bids Asked

Mo., Lilbourn—City, imprv., exten. WW sys. $66,075. Russell & Axon, 6635 Delmar Blvd., University City, St. Louis, Zone 5, engrs. CD 7/20—ENR 8/2, under Postwar Projects.

SOON LETS CONTRACT

Tex., Freeport—Dow Chemical Co., Freeport, soon lets contract two 10 in. fresh water steel pipelines under Oyster Creek Bed. CD 11/21.

LOW BIDDERS

D. C., Wash.—District Comrs., District Bldg., Nov. 27, watermains and sanitary sewers, vicinity of Central Ave. and 46 St. S.E., from Leo Butler Co., 8416 Georgia Ave, Silver Spring, Md. **$45,710.**

N. C., Fuquay Springs—Town, Town Hall, Nov. 26, water imprvs., from: R. E. Connell, 210 Taylor St., Raleigh, **$28,500.** R. H. Moore, Asheboro, engr. CD 11/16.

Ore., Central Point—City, City Hall, Nov. 20, furnishing 40,900 ft. 4- to 8-in. c.i. pipe, valves, fittings, etc., from Pacific States Cast Iron Pipe Co., Provo, Utah, **$46,481.** CD 10/5 ENR 10/18.

†**Tex., Fort Sam Houston**—U. S. Eng., Fort Sam Houston, Nov. 22, 300,000 gal. elevated steel water tank, incl. install. appurtenant pipe lines connecting into water supply lines, Ser. No. W-41-154-46-24, from V. Prassel, American Hospital & Life Bldg., San Antonio, **$44,973.**

CONTRACTS AWARDED

Ia., Waterloo—City, 2 steel elevated water tanks, to Pittsburgh-Des Moines Steel Co., 1015 Tuttle St., Des Moines, **$301,500.** Bids 10/19. E. E. Schenk, Waterloo, engr. CD 10/25/44—ENR 11/16/44, under Postwar Projects.

★**Mich., Detroit**—Dpt. Water Supply, 735 Randolph St., Contr. W-S-2, watermain, West Chicago Ave., to Vella & Mancini, 23170 Schoenherr Rd., East Detroit, **$789,000***** Contr. WS-3A, watermain, Evergreen Rd., to Gargaro Co., Inc., 40 East Seven Mile Rd. **$521,000***** Contr. DWS-14, furnishing, installing one 600 hp. steam boiler for Water Works Parks pump. station, to Edge Moor Iron Works, Inc., Wilmington, Del., **$86,392.** Grand total $1,396,392. Bids 11/20—CD 10/22—ENR 10/25.

Mo., Fulton—City, elevated water tower, to Chicago Bridge & Iron Co., 332 S. Michigan Ave., Chicago, Ill., **$26,410;** steam generator, to Babcox & Wilcox Co., Schell Bldg., St. Louis, **$89,141.** CD 11/19—ENR 11/29.

★**Neb., Omaha**—Metropolitan Utilities Div., 18 and Harney Sts., water distr. exten., imprvs., installation, to B. & M. Constr. Co., Petroleum Bldg., Oklahoma City, Okla., **$306,625;** pipe, to American Cast Iron Pipe Co., 2930 N. 16 St., Birmingham, Ala., **$240,880.** Bids 11/1. CD 10/2—ENR 10/4.

★**N. Y., New York**—Bd. Water Supply, 120 Wall St., Contr. 359, furnishing, testing, delivery conical plug valves, connecting pipes and controlling mechanisms for operating chambers of Delaware Aqueduct, to S. Morgan Smith Co., 500 Lincoln St., York, Pa., **$575,097.** CD 11/19—ENR 11/22 under LB.

★†**N. Y., West Point**—U. S. Eng., 120 Wall St., New York, Zone 5, increasing water supply, dam and reservoir, to Andrew Gull Corp. & DeFelice, 518 Porter Ave., Brooklyn, Zone 22. **$637,997.** CD 8/2—ENR 8/9. Alexander Potter & Assoc., 50 Church St., New York, consult. engrs.

O., Columbus—E. A. Keller, city service dir., City Hall, 48 in. pipeline increasing water purification works capacity in Dublin Rd., to M. Fatol, 3553 E. 103 St., Cleveland, **$29,500.** Awarded 11/23.

★**O., Lima**—City, City Hall, WW earth work reservoir, inlet and outlet structures, to A. J. Baltes, Norwalk, $547,000. Bids 11/15, awarded 11/16. CD 10/31—ENR 11/8.

★**Pa., Lebanon**—City, City Hall, water supply line from High Bridge to here, to Inter-County Constr. Co., Hyattsville, Md. **$1,181,260.** Gannett, Fleming, Corddry & Carpenter, Inc., 600 N. Second St., Harrisburg, engr. CD 10/31—ENR 11/8 under LB.

Tex., Beaumont—Ctiy, City Hall, brick, concrete pump. station at Del Mar Plant, to O. W. Collins, Port Arthur, **$16,960.** G. Schaumburg, City Hall, engr. CD 10/8—ENR 10/18.

Tex., San Antonio—Nu-Way Homes Co., c/o A. Biard, Majestic Bldg., c.i. water lines, own forces, **$18,000.** CD 11/9—ENR 11/29.

Tex., McAllen—City, City Hall, 7,000 lin. ft. 8 in. c.i. watermains, to Mitchell Darby Constr. Co., Pharr. **$17,000.** CD 8/22—ENR 9/6, under Postwar Projects.

Tex., Von Ormy—O. R. Mitchell, 1041 Navarro St., San Antonio, water supply well, own forces. **$16,000.** CD 11/15—ENR 11/29.

Location of ENR Correspondents

Symbols and Abbreviations Include:

	Federal Government
★	Project of $500,000 or over
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Name in order of Listing)

Water Supply; Sewers, Waste Disposal; Bridges; Streets & Roads; Earthwork, Waterways; Latin America; Public Buildings; Commercial Buildings; Industrial Buildings; Unclassified

Stages Reported

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only). For full calendar, see also preceding issues of ENR.;

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

SEWERS, WASTE DISPOSAL

BIDS ASKED

Bids Asked December 14

O., Euclid—City, K. Sims, mayor, City Hall, E. 222 St. and Lake Shore Blvd., sewer and watermain in E. 255 St., from Lake Shore Blvd. to Shoreview Dr. $40,000. F. J. Thomas, city engr.

Bids Asked December 18

La., Denham Springs—P. T. Jones, mayor, Denham Springs, sewage collection and disposal sys. Plans deposit $25. Barnard & Burk, 314 Triad Bldg., Baton Rouge, engrs. CD 5/9—ENR 5/17.

Bids Asked December 19

Calif., Los Angeles—City, City Hall, Tujunga Ave. sewage pump. plant, Tujunga Ave. at Agua Vista St., force main, suction pipe. $25,000. Plans deposit $25. L. Aldrich, City Hall, engr.

Bids Asked December 21

Calif., San Francisco—Dpt. P. Wks., 282 City Hall, Sect. A, Lake Merced sewerage sys., Spec. 20,012. Plans deposit $10. R. Wadsworth, city engr.

Bids Asked

Mass., Waltham—City P. Wks. Dpt., City Hall, brick, steel, concrete refuse and rubbish incinerator. $110,000. J. R. Worcester & Co., 79 Milk St., Boston, and Whitman & Howard, 89 Broad St., Boston, engrs. CD 11/20—ENR 11/29.

LOW BIDDERS

Mass., East Boston—Commonwealth of Massachusetts, Div. Waterways, P. Wks. Dpt., 100 Nashua St., Boston, Nov. 27, storm drain, Logan Airport, Porter St. to Prescott St., from C. & R. Constr. Co., 75 Bradeen St., Roslindale. **$172,216.** CD 11/12—ENR 11/15.

O., Bedford—City, Catherine Loomis, clk., City Hall, received no bids Nov. 26. 3 story, 28x30 ft., brick incinerator. **$40,000.** Will readvertise. R. Scott, 774 N. Main St., Akron, engr. CD 11/16.

Tex., Forth Worth—City, S. H. Bothwell, mgr., City Hall, rejected bids Nov. 7, 12,700 ft., 6 and 8 in. sanitary sewer lines in Chrestwood Addn., L.B. **$40,746.** CD 11/2—ENR 11/15, under LB.

Tex., Houston—City, City Hall, rejected bids Nov. 14, storm sewers Patterson Gully, L. B. **$96,956.** CD 11/20—ENR 11/29 under LB.

Tex., Houston—City, City Hall, storm sewers, Golfcrest Addn., from Elder Constr. Co., 2223 Corindt St. **$197,915.**

†**Tex., Houston**—Federal Works Agency, 708 Electric Bldg., Fort Worth, project abandoned, sanitary sewers. Over $25,000. CD 9/11—ENR 9/13.

Tex., Houston—City, M. H. Westerman, secy., City Hall, Nov. 28, 300-ton garbage